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Vol. IV
TRANSCRIPT OF RECORD

Supreme Court of the United States

OCTOBER TERM, 1942

No. 721

THE NORTH AMERICAN COMPANY, PETITIONER,

vs.

SECURITIES AND EXCHANGE COMMISSION

**ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT
OF APPEALS FOR THE SECOND CIRCUIT**

PETITION FOR CERTIORARI FILED FEBRUARY 10, 1943.

CERTIORARI GRANTED MARCH 1, 1943.

United States Circuit Court of Appeals

FOR THE SECOND CIRCUIT

October Term, No. _____

THE NORTH AMERICAN COMPANY,

Petitioner,

v.

SECURITIES AND EXCHANGE COMMISSION,

Respondent.

TRANSCRIPT OF RECORD

TESTIMONY

Volume IV

(Pages 1103 to 1591)

ON PETITIONS FOR REVIEW OF ORDERS OF SECURITIES
AND EXCHANGE COMMISSION

TABLE OF CONTENTS

Volume IV.

	PAGE
Testimony	1103

RESPONDENT'S WITNESSES:

Edward H. Schmidtman:

Direct by Mr. Hamilton (Continued) ..	1104, 1269
Cross by Mr. O'Dell.....	1444, 1454
Redirect by Mr. Browning.....	1466
Recross by Mr. O'Dell.....	1467

Asel R. Colbert:

Direct by Mr. Browning.....	1244
Cross by Miss Calkins.....	1258
Redirect by Mr. Browning.....	1262
Recross by Miss Calkins.....	1267

Gould W. Van Derzee:

Direct by Mr. Browning.....	1338, 1449, 1471
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1103

BEFORE THE

3307

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

Hearing Room 1102,
Securities and Exchange Commis-
sion Building,
Washington, D. C.,
Thursday, September 12, 1940.

3308

Met, pursuant to adjournment, at 10:00 o'clock a. m.

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

3309

CHARLES S. HAMILTON, JR., of Sullivan & Cromwell,
48 Wall Street, New York City, Attorneys for the
Respondents.

RALPH C. BINFORD, Attorney for the Securities and Ex-
change Commission.

MISS E. H. CALKINS, Attorney for the Securities and Ex-
change Commission.

3310

Edward H. Schmidtman—By Respondents—Direct

PROCEEDINGS

The Examiner: The hearing will come to order.

EDWARD H. SCHMIDTMAN resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton (Continued):

Q. At the close of the hearing yesterday afternoon, Mr. Schmidtman, you were testifying as to the sale of power by Wisconsin Electric Power Company to Wisconsin Gas & Electric Company. Have you any statistics as to the extent of that sale over a period of years? A. Yes, I have. During the last ten years—that is, from the year 1930 to 1939 inclusive, Wisconsin Gas & Electric Company has purchased not less than 96½ per cent. of its total power requirements from Wisconsin Electric Power Company each year.

In the year 1936, Wisconsin Gas & Electric Company purchased 99.6 per cent. of its total power requirements from Wisconsin Electric Power Company. Since 1934, Wisconsin Gas & Electric Company has purchased no energy from any system other than Wisconsin Electric Power Company, but during the years prior to that, it purchased up to a maximum of 2.3 per cent. of its annual energy requirements from Wisconsin Power & Light Company.

During the ten-year period just mentioned, the annual

—1,534—

generation in the plants of Wisconsin Gas & Electric Company furnished not more than 1.3 per cent. of the total energy input to the system of Wisconsin Gas & Electric Company.

Q. In any given year? A. In any given year.

Edward H. Schmidtman—By Respondents—Direct

3313

Q. Now, in order to make those figures precise, could you give the percentages for the years 1936 and subsequent?

A. In the year 1936, Wisconsin Gas & Electric Company generated .4 of 1 per cent. of its requirements and purchased 99.6 per cent. from Wisconsin Electric Power Company.

In 1937, the generation amounted to .6 of 1 per cent. and the purchases to 99.4 per cent. of requirements.

In 1938, generation was 1 per cent. and purchases 99 per cent.

In 1939, as I have testified previously, generation was .6 of 1 per cent. and purchases from Wisconsin Electric Power Company 99.4 per cent.

3314

Q. Is the purchase of this power from Wisconsin Electric Power Company advantageous to Wisconsin Gas & Electric Company? A. Yes, it is; most advantageous. By being able to obtain its power from Wisconsin Electric Power Company, Wisconsin Gas & Electric Company enjoys the advantages of the high economy and low investment in the large generating stations of Wisconsin Electric Power Company.

—1,535—

It also receives the benefits of the use of the high voltage transmission system of Wisconsin Electric Power Company which system is used in carrying energy from the power generating stations to the points of delivery on the system of Wisconsin Gas & Electric Company.

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The use of this transmission system makes possible the efficient delivery of the large blocks of power which Wisconsin Gas & Electric Company receives at its major points of contact with the system of Wisconsin Electric Power Company. If this source of power were not available to Wisconsin

2316

Edward H. Schmidtman—By Respondents—Direct

sin Gas & Electric Company, that company would have to put in one or more power plants of its own to furnish its power needs.

I testified yesterday that the net demand represented by sales to Wisconsin Gas & Electric Company amounted to a net figure of 43,970 kilowatts in May of 1940.

3317

In other months, it is higher than that and in still other months it runs below that somewhat, but in order to carry loads of this magnitude in power plants of its own, Wisconsin Gas & Electric Company would have to have stations with an aggregate capacity of not less than 60,000 kilowatts, I should say.

Steam generating capacity of that magnitude would cost in the neighborhood of \$6,000,000.00 or more, assuming a unit cost of \$100.00 per kilowatt for the smaller plants, and the transmission system that would be required in carry-

—1,536—

ing the energy from such plant or plants to the present transmission facilities of the company would represent additional substantial investment.

3318

Q. Your figure of 60,000 kilowatts is based on the fact that reserve capacity would be necessary in the operation of its own system? A. Yes, it is.

Any electric utility system would be required, in order to assure reasonable continuity of service, to have reserve generating capacity somewhat in excess of its maximum load on the system.

Wisconsin Gas & Electric Company, in receiving power service from Wisconsin Electric Power Company, is able to have such service continuity guaranteed by virtue of the

Edward H. Schmidtman—By Respondents—Direct

3319

reserve capacity carried in the generating plants of Wisconsin Electric Power Company.

The power is sold to Wisconsin Gas & Electric Company at a rate which covers costs of power production and fixed charges and operating expenses on all facilities used in rendering the service.

This service is rendered under a special rate which is filed with the Public Service Commission of Wisconsin and which is available to any public utility which would take equivalent or greater quantities of energy and would have equivalent or greater demands on the system of Wisconsin
—1,537—

3320

Electric Power Company.

That is, the rate is not limited to Wisconsin Gas & Electric Company but rather is available to any electric utility system which could qualify as to magnitude of loads. This rate includes a demand charge schedule which specifies \$18.00 per kilowatt per year for the first 20,000 kilowatts of demand and \$15.00 per kilowatt per year for all demands in excess of 20,000 kilowatts.

3321

The energy steps of the rate begin with seven-tenths of a cent per kilowatt hour for the first 1,000,000 kilowatt hours taken within a month. The next 6,000,000 kilowatt hours per month are billed at sixty-five-hundredths of a cent; the next 8,000,000 kilowatt hours per month are billed at six-tenths of a cent per kilowatt hour, and all consumption in excess of 15,000,000 kilowatt hours per month is billed at fifty-five-hundredths of a cent per kilowatt hour.

In 1938, the average cost of this service to Wisconsin Gas & Electric Company amounted to eighty-eight-hundredths

3322

Edward H. Schmidtman—By Respondents—Direct

of a cent per kilowatt hour including both energy charge and demand charge.

Q. These billings you have spoken of are net billings, are they? A. Yes, they are net billings.

Q. And, therefore, do not include energy delivered Wisconsin Gas and returned by Wisconsin Gas to its system?

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A. That is right. They cover the net energy delivered to Wisconsin Gas & Electric Company for resale to its customers. The power service which is rendered Wisconsin Gas & Electric Company by Wisconsin Electric Power Company for use in the gas plant and other operations of Wisconsin Gas & Electric Company is billed at regular filed rates for the classes of service under which the service is rendered.

That energy is not included in the billings under what we call the general power contract, the rates of which I have just given, which is intended to apply only to the power sold to Wisconsin Gas & Electric Company for resale to its customers.

3324

Q. Is the amount of energy which Wisconsin Gas & Electric Company may take under this filed rate restricted in any way by contract or otherwise? A. No, there is no restriction whatever on the amount of energy or the magnitude of demand which Wisconsin Gas & Electric Company may take from the system of Wisconsin Electric Power Company.

If Wisconsin Gas & Electric Company should experience a marked increase in power requirements, Wisconsin Electric Power Company would stand ready to install such additional power generation and transmission facilities as would be required in serving that increased load.

Edward H. Schmidtman—By Respondents—Direct

3325

The contract specifies no limits and the spirit of the

—1,539—

arrangement contemplates no limits on the extent of the service which Wisconsin Gas & Electric Company may take from Wisconsin Electric Power Company.

Q. Is there any characteristic of the territory of Wisconsin Gas & Electric Company which makes that territory particularly adapted to this source of power supply? A. Yes, there is, and that characteristic is its geographical shape and position with respect to the territory and system of Wisconsin Electric Power Company.

3326

Reference to Exhibit 32 will show that the territory of Wisconsin Gas & Electric Company lies generally in the form of an irregular ring or rim around the south, west and north sides of the territory served by Wisconsin Electric Power Company.

This relationship of territories makes it most economical for both territories to be served by a system generally radiating from power sources somewhere near the center of the right-hand edge lying along Lake Michigan.

3327

If Wisconsin Gas & Electric Company were deprived of its present power source, namely, the system of Wisconsin Electric Power Company, it would be faced with a problem of locating power plants capable of serving this ring of territory, and it is quite probable that the company would find it necessary to install at least two plants because one plant located in any portion of the territory would have to deliver

—1,540—

energy substantial distances in order to serve the entire electric service territory of the company.

3328

Edward H. Schmidtman—By Respondents—Direct

Q. Thereby losing the advantages of operations of large units? A. Yes, entirely so. The relationship of these territories makes it most advantageous for both systems—or rather, the combined systems—to be served from one system of power generation facilities.

3329

Q. You have testified as to the interchange between Wisconsin Electric Power Company and Wisconsin Michigan Power Company. Is this interchange of this interconnection of benefit and advantage to Wisconsin Michigan Power Company? A. Yes, it is. I have explained that Wisconsin Michigan Power Company finds itself, during flood seasons, in possession of potential electrical energy in excess of its own system requirements and that in seasons of low flow it is in need of additional stand-by energy.

This interconnection fills both of those needs and I may say that this interconnection is the only means available by which those needs could be filled for Wisconsin Michigan Power Company.

3330

Q. Now, will you explain that point? A. Other electric utility systems with which Wisconsin Michigan Power Company now has or could establish interconnections intended to perform the functions of the present interconnection with

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Wisconsin Electric Power Company, are located in territory similar to that in which Wisconsin Michigan Power Company operates.

These other systems also have considerable hydro-electric generating capacity and they also have, during the flood seasons of the year, surplus quantities of hydro-electric energy which they would like to sell.

Edward H. Schmidtman—By Respondents—Direct

3331

Since they have a surplus at the time Wiscor and Michigan Power Company has a surplus, obviously they could furnish no outlet for the surplus power of Wisconsin Michigan Power Company.

Likewise, in seasons of low flow, these neighboring companies are in need of all their own steam generating capacity to bolster up their deficient supply of hydro-electric capacity and at those times of the year they are not in a position to furnish Wisconsin Michigan Power Company any help that it might need.

3332

The presence of a large market in the Milwaukee district and surrounding areas, and the magnitude of the loads served in that territory makes it possible for Wisconsin Electric Power Company to absorb that surplus hydro-electric energy and to furnish the needed steam power during seasons of drought.

I have mentioned that Wisconsin Michigan Power Company has interconnections with certain customers who operate hydro-electric plants of their own. These hydro-

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3333

electric plants of the customers experience the same periods of surplus and shortage as are experienced by the hydro-electric plants in this part of the state in general.

In furnishing stand-by service to these customers and in taking off their hands the surplus hydro-electric energy which they have, Wisconsin Michigan Power Company is rendering them the same type of service which it is receiving from Wisconsin Electric Power Company and it can render that service to them on the terms at which it is doing it only because of the fact that it has an outlet for the surplus hydro-

3334

Edward H. Schmidtman—By Respondents—Direct

electric energy it receives from those customers and has a source of stand-by steam energy which it furnishes to them.

Now, when I refer to a source of stand-by steam energy I am not unmindful of the fact that Wisconsin Michigan Power Company does own and operate a 20,000 kilowatt steam generating station at Appleton. This steam generating station is operated to carry full load at certain times of the year but, as I will explain subsequently, operations at that plant are minimized to those times when it is actually needed and can not be supplanted by steam power from the south for economy reasons.

3335

Q. Would you say, then, that the existence of the inter-connection prevents the waste of surplus hydro-electric

—1,543—

energy? A. Yes, definitely, it does, and in preventing that waste it conserves coal that would otherwise be burned in the plant of the Wisconsin Electric Power Company in carrying the loads which it is able to carry by dovetailing the surplus hydro-electric energy into its own power supply.

3336

Q. Is the interchange between the two companies of benefit to Wisconsin Electric Power Company? A. Yes, it is. Wisconsin Electric Power Company, of course, is called upon to regulate the operation of its own power plants in order to absorb the surplus hydro-electric energy received from Appleton.

In doing that, the loads on the steam generating stations must be reduced. Usually such reduction of load results in some loss of economy because it may require the placing of uneconomical loads on certain steam generating units.

The rate which is paid for the surplus hydro-electric

Edward H. Schmidtman—By Respondents—Direct

3337

energy recognizes the fact that some loss of economy results from the use of that energy.

That is, the remaining loads on the steam plants are generated at slightly higher heat consumption than was the case before the hydro-electric energy was introduced into the system.

For that reason, the rate which is paid for the surplus

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hydro-electric energy is something less than the actual cost of coal consumed in generating power in the steam plants of Wisconsin Electric Power Company.

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This interchange of power between the two systems is carefully coordinated through the operations of the load dispatchers of the two companies, and by such coordination the loss of economy in the steam plants of Wisconsin Electric Power Company is minimized, while, at the same time the greatest possible use is made of the available energy from the hydro-electric plants.

Q. Are there other advantages to Wisconsin Michigan Power Company which you haven't mentioned? A. Yes, there is a very real advantage which accrues to Wisconsin Michigan Power Company through this type of operation, which results from the manner in which the load is interchanged during periods of low flow.

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I have explained that during such periods, the water power plants are incapable of delivering enough power to carry the loads on the system of Wisconsin Michigan Power Company as a whole and that steam power is sent up to Appleton to supplement that inadequate supply.

So far, we have spoken simply in terms of kilowatt hours, but the schedule by which those deliveries are made results

3340

Edward H. Schmidtman—By Respondents—Direct

in substantial advantage to Wisconsin Michigan Power Company.

—1,545—

I pointed out yesterday that Wisconsin Michigan Power Company serves a number of paper mills and other industries in the Appleton area which generate a part of their own power requirements by means of water wheels operating from water in the Fox River.

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When the flow in the Fox River drops to low levels, these mills are unable to operate their water-driven equipment because of insufficient water in the stream. They then call upon Wisconsin Michigan Power Company to make up that shortage in power, thus imposing on the system of the company a greater load than they impose upon it at any other time of the year.

3342

Now, this increased load comes at a time when the hydro-electric plants of the company are usually at their lowest output levels. So here we have a combination of what frequently turns out to be the maximum annual demand on the system of the company occurring in the middle of the summer when the hydro-electric plants are least able to carry the load.

This situation is handled by scheduling operations in such a way that the hydro-electric plants in Michigan shut down at night to such extent as they can do so and still discharge necessary quantities of water in the streams.

Some of them, as I have pointed out, are not able to accomplish any considerable degree of manipulation of stream flow because of requirements of riparian owners downstream and also because of conservation requirements.

—1,546—

Edward H. Schmidtman—By Respondents—Direct

3343

The plants which are able to operate on this peaking cycle store water at night and use that water during the day time in carrying the day time peaks in the northern division and at the same time sending such portions of their power as are in excess of northern division requirements south over the line to Appleton.

In periods of extreme shortage of water, energy is not sent south to Appleton in any considerable quantities, but the water is retained for use in that division so that it will be unnecessary during periods of ponding water to send energy north over the line.

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The transfer back and forth over the line of large quantities of energy is minimized in order to reduce transmission losses.

Now, then, at night, when the plants in the northern division are operating at reduced loads and are impounding water, the loads on the southern division are carried by means of what we call "dump steam energy" delivered from the plants of Wisconsin Electric Power Company over the Milwaukee-Appleton transmission line.

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This dump steam energy, as a result of this cycle of operations, is delivered at night when the loads on the system of Wisconsin Electric Power Company are at their lowest, and, consequently, at a time when it is considerably advantageous to build up those loads in order to maintain

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efficient operating conditions in the steam plants.

Because of the character of this dump steam energy, with respect to time of day and with respect to its effect upon the loads of Wisconsin Electric Power Company steam

3346

Edward H. Schmidtman—By Respondents—Direct

plants, it is sold to Wisconsin Michigan Power Company at a rate which recognizes the character of the energy.

The rate which is charged for dump steam energy is one-third of a cent per kilowatt hour and is based on increment costs of generating such power in the steam plants of Wisconsin Electric Power Company.

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The availability of this dump steam energy to Wisconsin Michigan Power Company enables that company to utilize more economically the kilowatt hours represented in the water flowing in the streams at its hydro-electric plants in the northern division, and to also minimize the flow of energy over the transmission lines of the northern division.

The rate of one-third cent per kilowatt hour at which dump steam energy is delivered to Wisconsin Michigan Power Company at Appleton is appreciably below the production cost of generating energy in the Appleton steam plant and enables Wisconsin Michigan Power Company to obtain energy of that kind at a cost less than it would experience if it generated it in its own plant.

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At the same time, as I have pointed out, it improves

—1,548—

operating conditions at the plants of Wisconsin Electric Power Company permitting the realization of higher economy in those plants as well.

Q. While we are on the general subject of the method in which the operations of these hydro-electric plants are synchronized, would you explain the studies that were made on the movement of waves in water-flow in the territories of the northern section of Wisconsin Michigan Power Company? A. Yes, I will.

Edward H. Schmidtman—By Respondents—Direct

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Q. And relate the significance of those studies to the actual operations of the hydro-electric system? A. Yes.

The type of operation which I have described, involving the ponding of water at one time of day and the release of it through water turbines at another time of day, obviously causes fluctuations in the quantities of water discharged by the streams below the plants.

While water is being ponded, the flow in the stream below is reduced to the amount of water which is being permitted to pass the plant and progressively downstream it is increased by the contributions of the tributaries which flow into the river.

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When the plants are put into operation, the discharge is increased by the amount of water released through the turbines.

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The discharge during periods of ponding is less than what would normally be the flow of the stream at that time and the discharge during the periods of operation is more than that normal flow at that time.

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These fluctuations in discharge result in the formation of flow-waves in the stream. When the turbines are put into operation, the flow in the stream is sometimes nearly double what it was immediately before the wheels began carrying load.

That increased quantity of water moves downstream in the form of a wave which is definitely measurable as to magnitude, rate of travel, and the period of time which it takes that wave to disappear within a given stream bed.

3352

Edward H. Schmidtman—By Respondents—Direct

On the Menominee River, a number of hydro-electric plants are located, several in addition to those operated by Wisconsin Michigan Power Company. Many of these plants have relatively small reservoirs above the dams and are unable to absorb without loss of water such waves as those I have just described.

3353

This makes it necessary in carrying on these operations to give consideration to the owners of plants located on the streams below the plants at which the peaking operations are desired to be carried out.

I explained that the waves from the Brule River plant are discharged into the pond of the Twin Falls Plant. The

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Twin Falls Plant has a relatively large pond above the dam and its upper levels are of sufficient capacity to absorb the short duration waves resulting from the peaking operations at the Brule River Plant.

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Likewise, the peaking operations at the Pine River Plant discharge flow waves into the Pine River which are still appreciable at the mouth of the stream where it flows into the Menominee River.

Immediately below that point is located the hydro-electric plant of the Ford Motor Company and in order to not cause the quantities of water delivered to the Ford plant to result in a spilling of water at that point and the wasting of the energy represented by that water, the Twin Falls plant is operated so that the trough created by the partial shutting down of the Twin Falls Plant will reach the pond of the Ford plant at the same time that the surge from the Pine River Plant reaches it.

Edward H. Schmidtman, By Respondents—Direct

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By carefully gauging those quantities of water—that is, the magnitude of the water withheld at Twin Falls and the quantity of water discharged at the Pine River Plant—the effect on the pond above the Ford dam is imperceptible and no waste of water results from that type of operation.

It has been discovered that discharges from the Pine River Plant take six hours in flowing down the river to reach the Menominee, but that discharges from the Twin Falls Plant

—1,551—

which is located immediately at the upper reaches of the Ford pond, will affect the level of the Ford pond immediately.

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For this reason, the operations of the Twin Falls Plant and the Pine River Plant are scheduled so that when the wave from the Pine River Plant has been traveling six hours, the turbines at the Twin Falls Plant will be shut down in proportion to the quantity of water released at the Pine River Plant six hours earlier.

Likewise, when the Pine River Plant is taken off the peak and is put back into a pounding period, the Twin Falls Plant operators stand ready to begin discharging water at Twin Falls six hours later.

3357

This consideration of flow-waves naturally enters into the operation of all of the plants which have ponding capacity sufficient to permit peaking operations. Such operations are carried on at the Chalk Hill Plant.

Here, again, Wisconsin Michigan Power Company has another hydro-electric station—the White Rapids Plant—immediately downstream, with a pond of sufficient capacity to equalize the irregularities of flow resulting from the peaking operations at the Chalk Hill Plant.

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Edward H. Schmidtman—By Respondents—Direct

The White Rapids pond does not have as great a ponding capacity as the Chalk Hill pond has but it doesn't need as large a capacity because, when the Chalk Hill plant is operated on, say, an eight-hour-a-day peaking cycle, so that it

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discharges in eight hours the entire flow of the stream at that point, which is received in twenty-four hours, the White Rapids Plant, by operating through the entire twenty-four hours, doesn't need a ponding capacity of more than two-thirds that of the Chalk Hill Pond because it is discharging during the same eight hours that it is receiving water from Chalk Hill and merely has to store the water which it is going to discharge in the remaining sixteen hours or two-thirds of the day.

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Nature seems to have been very foresighted when the topography at these two sites was formed, because, although the White Rapids pond is smaller than the Chalk Hill pond, it is still large enough to accommodate the peaking operations to as great an extent as it has been considered desirable give proper recognition to the rights of others, and has put to carry them on the Chalk Hill.

Q. The matter of flow-waves has been subject to considerable study and investigation by the companies? A. Yes, it has. The companies have participated in the study of flow waves on other rivers in Wisconsin.

These studies have been made in conjunction with the representatives of other electric systems which operate hydro-electric plants on streams in different parts of the state.

Q. Have the results of the studies, as far as your own

—1,553—

Edward H. Schmidtman—By Respondents—Direct

3361

companies are concerned, been the effecting of economies in operations of the hydro-electric system? A. The study of wave phenomena on the streams on which Wisconsin Michigan Power Company operates hydro-electric plants have served as a guide in scheduling the peaking and regulating operations I have just described.

The economies resulting from those operations are substantial and, while the study of the peak discharges has not increased the value of such operations, it has made it possible for the company to carry them on in such a way as to the company on firm ground with respect to the use of these characteristics of its plants.

3362

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Q. Now, returning again to the interchange between Wisconsin Electric Power Company and Wisconsin Michigan Power Company, does that interchange of energy involve energy other than dump hydro energy? A. Yes, it does. The interchange arrangement between the two companies also provides for the furnishing of firm power to Wisconsin Michigan Power Company, and the furnishing of emergency power to that company.

3363

Firm power is described in the contract and is regarded by the operators of the companies to be power delivered during the daytime hours, during the normal peak season of Wisconsin Electric Power Company.

That power is called firm, because it is taken from the system of Wisconsin Electric Power Company during such hours and such seasons as Wisconsin Electric Power Company is likely to have its own peak demands and, as a result, might be in need of the greatest amount of its own generating facilities.

3364

Edward H. Schmidtman—By Respondents—Direct

This is distinguished from dump power, which is delivered during the hours of the day when the demands on the facilities of Wisconsin Electric Power Company are low and when there is a margin of capacity which can be utilized in delivering such dump power, but firm power deliveries might coincide exactly, as to time of occurrence, with the peak demands of the loads on the systems of Wisconsin Electric Power Company and Wisconsin Gas & Electric Company.

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Firm power is delivered to Wisconsin Michigan Power Company upon its specific day-to-day and hour-by-hour request. That is, if firm power is delivered at a certain hour today and is discontinued, pursuant to dispatcher's orders, at another hour, similar deliveries will not be made tomorrow unless it is requested.

Under those conditions firm power is delivered to Wisconsin Michigan Power Company at a rate including a demand charge of \$15.00 per kilowatt per year, and an energy charge of one-half cent per kilowatt hour, which is adjusted according to a coal factor, recognizing the changes in cost of coal at the steam plants of Wisconsin Electric Power Company.

3366

The contract also provides for the furnishing of emergency power to Wisconsin Michigan Power Company. The amount of emergency power which Wisconsin Electric Power Company holds itself ready to deliver is limited only by the capacity of the interconnection facilities.

This capacity is not a definite figure but it is believed that up to possibly 25 or 30 thousand kilowatts of capacity could be delivered to Wisconsin Michigan Power Company over these facilities.

Edward H. Schmidtman—By Respondents—Direct

3367

The charge for emergency service is one cent per kilowatt hour, and the minimum charge requires that the company calling for emergency service must take such service for at least one hour at the maximum demand imposed.

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If it does not take service equivalent to one hour's use of the maximum demand, it is required to pay for that amount of energy nevertheless.

Emergency service is also available to Wisconsin Electric Power Company from Wisconsin Michigan Power Company up to the limit of the latter company's ability to furnish it, and at the same rate.

3368

Q. What effect does the existence of this source of emergency power have on the requirements of Wisconsin Michigan Power Company for reserve capacity? A. It practically eliminates the need for reserve capacity on the system of Wisconsin Michigan Power Company, because of the availability of emergency service and the availability of the dump steam service.

Wisconsin Michigan Power Company is carrying loads which are approaching fairly close to the total load-carrying capacity of its power generating facilities. It can do that safely because of its position with respect to this interconnection which will furnish emergency service in case of the outage of any of its facilities.

3369

Q. Will you indicate the savings which are effected by both companies by reason of the interchange? A. During the year 1938, which was the year in which the present contract provisions for the interchange of dump hydro-electric power and dump steam power, emergency power and firm

—1,557—

3370

Edward H. Schmidtman—By Respondents—Direct

power, was executed, Wisconsin Michigan Power Company delivered to Wisconsin Electric Power Company 57,703,000 kilowatt hours of surplus hydro-electric energy at Appleton.

Wisconsin Michigan Power Company, in the same year, purchased from Wisconsin Electric Power Company 16,467,500 kilowatt hours of dump steam energy.

3371

Recognizing the cost which Wisconsin Michigan Power Company would have incurred in generating an equivalent amount of steam energy in the Appleton plant, it is estimated that that company saved \$81,702.00 in the use of dump steam energy from Wisconsin Electric Power Company. I have given you the wrong figure there. That figure should be \$21,184.00. The \$81,702.00 is the amount by which the revenue received by Wisconsin Michigan Power Company for the dump hydraulic energy exceeded the estimated increment cost of generating that hydro-electric energy.

3372

The sum of these two figures, which amounts to \$102,886.00 therefore represents the estimated amount by which Wisconsin Michigan Power Company benefited in 1938 through the generation and sale of its surplus hydro-electric energy and through the purchase of dump steam energy.

Now, as for Wisconsin Electric Power Company, it is estimated that the revenue received for the dump steam energy delivered to Wisconsin Michigan Power Company at Appleton exceeded the actual incremental cost of producing

—1,558—

that energy by \$10,181.00.

The saving which Wisconsin Electric Power Company realized through the use of the surplus hydro-electric energy from Appleton is estimated at \$27,535.00.

That estimate recognizes the price actually paid for that surplus hydro-electric energy as well as the cost of generating such energy in the power plants of Wisconsin Electric Power Company, after making adjustment for the reduced economy resulting from the use of that surplus hydro-electric power.

The total estimate benefit to Wisconsin Electric Power Company amounts to the sum of these two figures, or \$37,716.00.

The combined saving to both companies during that year amounts to \$140,602.00, according to these estimates.

3374

Now, I mention these as estimates, because, when one attempts to calculate how much it would have cost to do something that wasn't done, no matter how carefully the calculation is made there are bound to be some elements of estimate involved.

These figures are derived from the operating records of the companies, including production economy, and are as close as we can come to a quantitative measure of the savings realized through this interchange operation.

Q. Before we leave this point, is the Appleton steam

—1,559—

3375

plant of Wisconsin Michigan Power Company as efficient as the Port Washington or Lakeside plants of Wisconsin Electric Power Company? A. No. It is not anywhere near as efficient as either the Lakeside or Port Washington plant.

The Appleton plant has four 5,000 kilowatt units, which are relatively small. They are older units and don't have as high operating efficiency as those at Lakeside or Port Washington.

3376

Edward H. Schmidtman—By Respondents—Direct

Q. Isn't it a fact that three of those units were installed before Wisconsin Michigan Power Company became affiliated with Wisconsin Electric Power? A. Yes, that is true. One of the present units was installed in 1920 and two of them in 1917, yes.

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Q. So that the high standards of construction now prevalent in the system were not applied to the construction of those plants? A. No, they weren't. The present high standards of construction probably hadn't been conceived by that time, and the fact that the Appleton plant has a lower operating economy than that of the large stations of Wisconsin Electric Power Company is no reflection on the people who built the Appleton plant nor the people who are now operating it. It is just an older plant and isn't as efficient as the modern ones, and the interchange operation between the companies makes it possible to take advantage

—1,540—

of the higher efficiency of the large stations of Wisconsin Electric Power Company and make less extensive use of the less economical machines in the Appleton plant.

3378

Continuing with the answer to your question, Mr. Hamilton, I have covered the savings that were realized in 1938. In 1939, operations were continued on a similar basis with respect to the interchange, and Wisconsin Michigan Power Company delivered 49,256,500 kilowatt hours of dump hydroelectric energy to Wisconsin Electric Power Company at Appleton.

In the same year Wisconsin Electric Power Company delivered to Wisconsin Michigan Power Company 9,597,000 kilowatt hours of dump steam energy.

Edward H. Schmidtman—By Respondents—Direct

3379

The estimated savings resulting from this interchange amounts to \$85,579.00 for Wisconsin Michigan Power Company, and \$43,796.00 for Wisconsin Electric Power Company, making a total of \$129,375.00 for the two companies together.

The interchange which has taken place thus far in 1940 indicates that the savings in this year will run into the same order of magnitude as those realized in 1938 and 1939. We haven't made complete estimates on it. We are going to wait for that until the year is over.

3380

These savings, as may be seen, are quite substantial and show that the joint operation of the facilities of the two

—1,561—

companies is advantageous.

Q. You have spoken of the existence of a source of emergency power to Wisconsin Michigan Power Company arising out of the interconnection. Can you illustrate the importance to Wisconsin Michigan Power Company of the existence of that source? A. The importance of the emergency service to Wisconsin Michigan Power Company can best be illustrated, perhaps, by a specific example.

3381

On July 17, 1940, Wisconsin Michigan Power Company was delivering between 15,000 and 20,000 kilowatts of surplus hydro-electric energy to the 132,000-volt sub-station at the Twin Falls plant in Michigan.

A. 10:40 in the evening of that day, a storm took the transmission line between Twin Falls and Appleton out of service, and that, of course, removed the source of power which was furnishing the surplus hydro-electric energy to Wisconsin Electric Power Company and which was also carrying substantial load in the Appleton territory. These

3382 / *Edward H. Schmidtman—By Respondents—Direct*

loads, being deprived of their source from Twin Falls, were immediately and automatically shifted to the line between Appleton and Milwaukee, and the power plants of Wisconsin Electric Power Company immediately picked up the load. The flow of power in the Milwaukee-Appleton line was instantly reversed and energy began flowing into the system of
—1,562—

Wisconsin Michigan Power Company in the Appleton district, from the Milwaukee power plants.

3383 At 11:07, the line between Twin Falls and Appleton was restored to service and the flow of energy in the Appleton Milwaukee line was again reversed, resuming its previous direction.

Now, this instance shows how important the emergency service connection between Wisconsin Electric Power Company and Wisconsin Michigan Power Company can be to the latter company.

3384 Had that connection not been in place, loads in the southern portion of the territory of Wisconsin-Michigan Power Company would have had to be dropped until the Appleton steam plant could have been brought into operation sufficiently to pick it up.

From 10:40 to 11:07—27 minutes—it is doubtful that enough units in the Appleton district could have been into service within that length of time to have picked up the load by the time the service was restored on the transmission line.

I should have stated, when I was describing the emergency service, that this service is available automatically, as indicated by this example, and is not withheld except on

Edward H. Schmidtman—By Respondents—Direct

3385

request, as in the case of firm steam power and dump steam power.

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The emergency service is intended to maintain continuity of service on the systems of the companies, and it doesn't matter whether someone requests it or not, the interests of the customers are safeguarded by making these emergency arrangements continuously effective, so that they go into operation purely automatically without even requiring the throwing of switches.

3386

This flow of energy reversed of its own accord because of the shifting of supply and load conditions on the system.

Q. When you say "automatic", do you mean that it was not even necessary for the load dispatcher in Milwaukee to be advised of the outage in the transmission line coming down from Twin Falls? A. Yes, I mean that. The line went out of service and the power was shut off. At that instant the flow reversed in the Milwaukee-Appleton line because there was load in the Appleton area across the line, which load was not being satisfied from the former source.

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It immediately began drawing power from the only electrical source connected to it, which was the 132,000-volt line from Milwaukee.

In each instance, after emergency service is taken, a dispatcher's report is made and the company taking the service notifies the company furnishing it as to the exact circumstances and the duration of the service.

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That is one of the provisions of the contract, this arrangement being based upon the fact that the company re-

3388

Edward H. Schmidtman—By Respondents—Direct

ceiving the emergency service is in better position to measure its time of occurrence and its nature than the company supplying it.

The only evidence of that line outage which appeared at the power plant of Wisconsin Electric Power Company was an increase in the loads carried on the generating units.

The magnitude of the load shifted to these plants was not sufficiently great to cause any drop in frequency. It didn't cause any drop in voltage.

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Momentarily when the load comes on what happens is that the units tend to slow down slightly because of the additional pull on the generators. As soon as that speed drops ever so little the governors on the turbines open the steam throttles and supply more steam to the turbines. They immediately regain the speed for which the governors are set and the units go on carrying the increased load.

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Certain types of outages do cause drops in voltage or frequency, or if the outage is of a type that suddenly relieves a plant of a part of its load the frequency and voltage will momentarily increase, but those changes must be of appreciable magnitude in proportion to the load carried by the units. This one wasn't of sufficient magnitude to cause any such flutter in voltage or frequency.

Q. In the instance you mentioned had it not been for the energy connection running south the Appleton territory would have been without electric service for the period of the interruption of the line running from Twin Falls to Appleton, is that correct? A. It would not have been entirely without service, no, because the Oconto Falls plant

Edward H. Schmidtman—By Respondents—Direct

3391

was operating and the Weyauwego plant was available for operation and a hydro-electric plant can be started much more quickly than a steam plant.

There was undoubtedly some spinning reserve in operation at the Appleton plant, so that the company probably would have been able to maintain reduced service over a

—1,566—

portion of the area and complete service over a part of it, or possibly reduced service over the entire area. At any rate, service to the customers would have been affected. To what extent one could not answer without making a careful analysis of all the generating equipment in service and available for service immediately.

3392

If it had not been for the presence of the transmission line from Appleton to Milwaukee, Wisconsin Michigan Power Company would have been at that time, and would be at all other times, required in the cause of continuity of service to carry spinning reserve at the Appleton steam plant of capacity equal to the capacity being received over the transmission line from the Twin Falls plant.

Q. And the result of that operation would be an increase in operating expense? A. An appreciable increase, yes.

3393

The Examiner: Let us have a five-minute recess.

(Whereupon, after a brief recess the hearing resumed.)

By Mr. Hamilton:

Q. In addition to the interchange of energy at the interconnections to which you have already referred, are there other operating matters in which the companies comprising

3394

Edward H. Schmidtman—By Respondents—Direct

the Wisconsin Michigan group cooperate? A. Yes, there are a number of such matters. One respect in which the three

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companies of the Wisconsin Michigan group cooperate is in the utilization of spare operating equipment. When the company has equipment which it does not need at one time and which is needed by one of the other two companies in expanding or altering or strengthening its transmission or distribution system, the company owning the equipment will sell it to the other. Through this arrangement a good many transactions have been carried out between the companies to their mutual advantage.

3395

In 1931 the loads in the area served by the Brown Deer sub-station, which appears on Exhibit 32, had increased to such a point that it was necessary to make some change in the distribution sub-station located there.

Q. That is a sub-station of Wisconsin Gas & Electric Company, is it? A. At that time the Brown Deer sub-station was owned by Wisconsin Gas & Electric Company. This sub-station supplied energy to numerous distribution lines, some of which extended out into the territory served by Wisconsin Gas & Electric Company, and some of which extended into the electric service territory of Wisconsin Electric Power Company.

3396

Studies were made of the entire situation to determine what should be done about improving operating conditions at that point and it was found that certain of the operating problems related to that sub-station would be simplified if the

—1,568—

Edward H. Schmidtman—By Respondents—Direct

3397

sub-station were owned and operated by Wisconsin Electric Power Company. It was decided that Wisconsin Electric Power Company should build a new and larger sub-station and should carry the loads of both companies in this area from that sub-station.

In order to keep Wisconsin Gas from having on its hands a sub-station for which it had no use it was decided that Wisconsin Electric Power Company would buy from Wisconsin Gas all those portions of the equipment in the Brown Deer sub-station that could be used on the system of Wisconsin Electric Power Company, and that Wisconsin Gas would make use of the remaining portions, that is those portions which it desired to retain, in its own operations.

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The sub-station was sold to Wisconsin Electric Power Company after an inventory of all equipment in the station and a valuation of that equipment at original cost. Depreciation was computed in accordance with the life of the equipment and the depreciation rates at which depreciation is provided for such items of sub-station equipment and the net price was the cost new less depreciation.

This transaction involved a consideration of approximately \$8,200 and reduced the cost of the new sub-station somewhat because some of the equipment was installed in the new sub-station and also relieved Wisconsin Gas & Electric Company of an investment in a sub-station and equipment for which it had no immediate use.

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The main power transformer and portions of the switchboards and certain other parts of the sub-station were retained by Wisconsin Gas & Electric Company because it had

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Edward H. Schmidtman—By Respondents—Direct

use for those items elsewhere in its distribution system. Transactions of this kind are carried out at original cost less depreciation in accordance with the requirements of the Public Service Commission of Wisconsin.

3401

The accounting that was done in this instance on the books of Wisconsin Gas & Electric Company was to write off from fixed capital the entire Brown Deer sub-station, charging the depreciation reserve with the amount of depreciation which had been deducted from the original cost in determining the consideration, and charging the amount received to cash.

On the books of Wisconsin Electric Power Company the equipment purchased was taken in at original cost as specified by the classification of accounts and there was set up in the depreciation reserve of Wisconsin Electric Power Company an amount equal to the depreciation which had been deducted from the original cost in determining the net price to be paid.

3402

As a result of those transactions the Brown Deer sub-station disappeared entirely from the fixed capital records of Wisconsin Gas & Electric Company. The depreciation which Wisconsin Gas & Electric Company had accrued during the period of service of the Brown Deer sub-station also disappeared from the books and Wisconsin Gas cash account reflected the fact that the company then had in the bank

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the additional cash represented by the consideration received from Wisconsin Electric Power Company.

On the books of Wisconsin Electric Power Company, however, fixed capital in service showed the original cost of the

Edward H. Schmidtman—By Respondents—Direct

3403

equipment purchased from Wisconsin Gas & Electric Company and the depreciation account showed an accumulation sufficient to offset the depreciation actually experienced by that property before Wisconsin Electric Company bought it.

Wisconsin Electric Power Company then continued accumulating depreciation on that equipment in terms of its over-all life, rather than its remaining life, so that when the over-all life has been served there will be in the depreciation reserve of Wisconsin Electric Power Company, a sufficient accumulation to write off that original cost.

3404

Miss Calkins: Does one of these companies ever lease equipment from another?

The Witness: They don't lease operating equipment ordinarily. They do lease property and they make joint use of certain buildings and land in which—

Miss Calkins: Well, I didn't mean that. I had reference to machinery that might be used on construction jobs and things of that kind.

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The Witness: I know of no instances where that has been done with the exception of electric service trucks which Wisconsin Electric Power Company

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rents from Wisconsin Gas & Electric Company in carrying out its operations.

Miss Calkins: But there isn't, generally speaking, any common use of any large amount of equipment owned by the respective companies?

3406

Edward H. Schmidtman—By Respondents—Direct

The Witness: No, there is not. Each company provides its own equipment for construction and maintenance purposes in general.

The companies are large enough to make it unnecessary for joint use of equipment of that kind. In instances where the relationship of the two companies with respect to territory and facilities and customers makes it advantageous for certain operations to be carried out jointly, advantage is taken of those opportunities. I will explain several of those.

3407

By Mr. Hamilton:

Q. Go ahead. A. Another instance of cooperation between the companies in the utilization of spare operating equipment occurred in 1933 when Wisconsin Gas & Electric Company constructed a sub-station at Elkhart Lake on the transmission line of Wisconsin Electric Power Company between Granville and Appleton.

3408

Elkhart Lake appears on Exhibit 32 in the northern portion of the electric service area of Wisconsin Gas & Electric Company.

This sub-station required the installation of 132,000 volt transformers which Wisconsin Gas & Electric Company did not have in stock at that time. The old Granville sub-station

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to which I have previously referred, had been taken out of service prior to 1933 and the transformers were still standing in place, although they were not in use.

These transformers were sold to Wisconsin Gas & Electric Company for installation in its sub-station which was

being built at Elkhart Lake. The transformers had been out of service for sometime and being of the outdoor type had been standing out in the weather. They were built for such service, however, and had not suffered any depreciation beyond that normally attending the life of the transformers at that time.

Due to their being out of operation, however, they had accumulated some moisture in the oil which insulated the winding of the transformers and in determining the price which was to be paid by Wisconsin Gas & Electric Company to Wisconsin Electric Power Company allowance was made for the cost of drying out the oil and of other minor maintenance operations which were necessary to place the transformers into good operating conditions consistent with their age. 3410

Here again the price was based on original cost less depreciation determined according to the proper depreciation rate for that class of equipment and the age of the transformers. The consideration was \$22,000 for the three transformers. Those transformers stepped down the voltage from 132,000 volts to 26,400 volts and have a rated capacity of 16,067 k. v. a. each, making a total sub-station capacity of 5,000 k. v. a. 3411
—1,573—

k. v. a.

The price was about \$22,600.00, which was scarcely more than half what it would have cost Wisconsin Gas & Electric Company to buy new transformers for that same installation.

The transformers are in good operating condition and for all practical purposes are equally as useful as new transformers purchased at that time would have been.

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Edward H. Schmidtman—By Respondents—Direct

As I recall, they were eight or nine years old at the time.

Another instance of the transfer of available equipment from one company to another occurred in 1939 when Wisconsin Gas & Electric Company decided to make some changes in its 132,000 volt sub-station in Kenosha.

These changes involved the removal of two 132,000 volt oil circuit breakers, and several sets of 132,000 volt disconnecting switches.

3413

These oil circuit breakers formerly served on the 132,000 volt transmission connection between Kenosha and the Illinois state line which has since been taken out of service. Inasmuch as Wisconsin Gas & Electric Company no longer had need for these circuit breakers and disconnecting switches, they were made available to the other two companies of the group.

Wisconsin Michigan Power Company recently found itself in need of such a circuit breaker for one of its substations and purchased one of the two from Wisconsin Gas

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3414

& Electric Company at a price which recognized the original cost, the age, as a measure of depreciation, and the operating condition of the breakers.

Subsequently, Wisconsin Electric Power Company needed an oil circuit breaker of that type and purchased the second one from Wisconsin Gas & Electric Company.

In this case, it was found that it would be necessary to overhaul the circuit breaker in order to place it in good operating condition and in order to meet the requirements of Wisconsin Electric Power Company it was also necessary to make some alterations in the control equipment in order

Edward H. Schmidtman—By Respondents—Direct

3415

to give the circuit breaker a higher current rupturing capacity.

The cost of overhauling and reconstructing the circuit breaker was divided into two classes; one, the costs incurred in placing the breaker into reasonable operating condition, and the other, the cost incurred in increasing its current rupturing capacity.

The first portion of these costs was deducted from the original cost less depreciation figure because it was a cost required in bringing the circuit breaker up to the condition indicated by the depreciated value.

3416

The remaining expenditure was an improvement in the capacity of the breaker and had nothing to do with the

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breaker in its present condition and its present rating.

Now, this transaction took two very expensive pieces of equipment off the hands of Wisconsin Gas & Electric Company. They were standing there in the Albers Street Sub-station and weren't rendering any service.

Cost estimates on similar breakers had been obtained by both Wisconsin Michigan Power Company and Wisconsin Electric Power Company, and in the case of the latter the quotation was between seventeen thousand and twenty thousand dollars.

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The price paid for these breakers was something on the order of seven thousand or seven thousand five hundred. I don't recall the exact figure, but the comparison of these figures indicates the amount of the saving realized.

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Edward H. Schmidtman—By Respondents—Direct

A large part of the difference between the cost of new circuit breakers and the ones that were purchased from Wisconsin Gas & Electric Company comes about from the fact that the old ones were purchased at a time when electrical equipment wasn't as expensive as it is now, and also because of the fact that the old breakers do not have some of the modern control refinements that the new ones have.

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Since the old breakers would serve the purpose, however, it was felt that there was good economy on the part of both the purchasing companies and the selling company to transfer the equipment.

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Wisconsin Electric Power Company is going to install the circuit breaker if purchased from Wisconsin Gas & Electric Company in the new 132,000 volt, 66,000 volt sub-station which I mentioned as being under construction at 96th Street on the Lakeside-Granville transmission line.

3420

Q. Turning to still other phases of joint operation, you have testified, have you not, that Wisconsin Electric Power Company furnishes steam to the Racine Gas Works of the Wisconsin Gas & Electric Company? A. Yes, I have.

Wisconsin Gas & Electric Company requires substantial quantities of steam for the operation of its gas plant in Racine and obtains that steam from the Racine Power Plant of Wisconsin Electric Power Company.

The steam is generated in the boiler plant of the power station and is billed to Wisconsin Gas & Electric Company at the actual cost of production—that is, the actual cost of furnishing the service.

Q. The use of that steam is necessary, is it, to the operation of the gas works? A. Yes, it is. It is necessary. If

Wisconsin Gas & Electric Company were unable to obtain the steam from a source such as this, it would have to put up a boiler plant of its own.

In 1939, it purchased \$26,000.00 worth of steam from

—1,577—

Wisconsin Electric Power Company.

The Racine Power Plant is not in regular electrical generating operation as I have explained, but the boilers are kept hot for two reasons, one of which is to keep the plant continuously available for emergency electric generating service and the other to furnish steam to the Racine Gas Plant.

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The boilers are there. The operating force is there, and the boilers are kept under pressure and so the only added cost of furnishing the steam to the gas plant is that of the incremental costs above those that would be incurred in simply holding the plant as available steam generating reserve.

Q. And that service is rendered to Wisconsin Gas at cost, is it? A. Yes, it is rendered at cost, the cost including apportionments of labor and other maintenance expenses, fuel, and proportionate fixed charges on the investment devoted to the steam service.

3423

Q. Does Wisconsin Gas & Electric Company perform any services for Wisconsin Electric Power Company at Racine Power Plant? A. Yes, it does. The operation of the Racine Power Plant produces considerable quantities of ashes from the boilers. These boilers are stoker-fired, as I have explained, and it is necessary to dispose of these ashes.

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3424

Edward H. Schmidtman—By Respondents—Direct

Wisconsin Gas & Electric Company hauls them away in trucks and dumps them at points provided for that purpose. The charge for the service is based on the cost of rendering it.

Wisconsin Gas & Electric Company operates a number of trucks in the Racine district in connection with the operation of its gas utility in handling of coke and coal, and so forth, and makes these trucks available for hauling away the ashes from the power plant.

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Q. Have you any idea as to the amount of coal burned at that plant, on a daily basis? A. I can look that up. In the year 1939, the Racine Power Plant consumed 6,060 tons of fuel. That fuel is made up of eastern screenings and coke breeze from the coke gas plant of Wisconsin Gas & Electric Company. On a daily basis—

Q. (Interposing) Well, that is sufficient. A. All right.

Q. Does Wisconsin Michigan Power Company perform line patrol services for Wisconsin Electric Power Company?

A. Yes, it does perform such services on that section of the 132,000 volt transmission line of the Wisconsin Electric Power Company which lies north of Plymouth, which is shown on Exhibit 32.

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This section of line is nearer to the territory of Wis-

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consin Michigan Power Company than it is to the territory of Wisconsin Electric Power Company, and it is, therefore, more convenient and economical to have patrol service along this fifty-mile section performed by patrol crews of Wisconsin Michigan Power Company than it would be to have the patrolling done by personnel of Wisconsin Electric Power Company.

Edward H. Schmidtman—By Respondents—Direct

3427

Q. That service is rendered at cost? A. Yes. The time spent and the facilities used in patrolling the line are covered by the billings made for the service, which are at actual cost.

Q. Are there instances of joint use of sub-stations by the respective companies? A. Yes, there are certain sub-stations which are used jointly by Wisconsin Electric Power Company and Wisconsin Gas & Electric Company.

One of these is located in Waukesha. The sub-station at this point is owned by Wisconsin Gas & Electric Company, and Wisconsin Electric Power Company has certain equipment located in the sub-station.

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The equipment located in the sub-station is operated by the personnel of Wisconsin Gas & Electric Company, and Wisconsin Electric Power Company shares the operating and maintenance costs of the sub-station, in addition to paying an equitable rent for the utilization of floor space in the

—1,580—

building.

This joint use of property and personnel eliminates the necessity for two separate installations and two separate operating crews.

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The rental for floor space is based upon investment in land and structure distributed on a floor space area in accordance with the amount of space used by each of the two companies.

The rent includes taxes, depreciation, and maintenance expense, as well as interest on investment.

Another sub-station which is occupied jointly by Wisconsin Electric Power Company, and Wisconsin Gas & Elec-

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Edward H. Schmidtman—By Respondents—Direct

ric Company, is located at Watertown, which appears on Exhibit 32.

In this case, the sub-station is owned by Wisconsin Electric Power Company. That is, the sub-station equipment is owned by Wisconsin Electric Power Company and it is located in the sub-station building and power plant building of Wisconsin Gas & Electric Company under an arrangement similar to that at Waukesha.

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The station and power plant equipment are operated by personnel of Wisconsin Electric Power Company of Watertown, however, and Wisconsin Gas & Electric Company shares the cost of operation.

It is billed for its proportion of the operating cost monthly.

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Wisconsin Electric Power Company, on the other hand, pays a monthly rental to Wisconsin Gas & Electric Company for its use of the investment in land and buildings. A special operating expense job order is maintained by Wisconsin Electric Power Company to cover the expenses incurred in operating and maintaining the watertown sub-station. The charges to this job order are summarized monthly, and are divided between the two companies in proportion to their relative use of the facilities in the sub-station. This relative use is measured by the kilowatt hours output of the equipment in the station, the number of switching operations, and the various other phases involved in operating the combined power plant and sub-station property.

Q. Are there instances of joint use of office facilities?

A. Yes, there are. Wisconsin Gas & Electric Company owns

Edward H. Schmidtman—By Respondents—Direct

3433

and operates a gas production and distribution system in the city of Racine and has its general offices in that city.

The electric system in Racine, however, is owned and operated by Wisconsin Electric Power Company, the Racine division offices of Wisconsin Electric Power Company being located in Racine.

Because of economies that can be realized through combining the main offices of Wisconsin Gas & Electric Company —1,582—

with the divisional offices of Wisconsin Electric Power Company, these two sets of offices occupy common buildings and utilize, to a considerable extent, the same office personnel and office equipment.

3434

The buildings are owned by Wisconsin Gas & Electric Company and for the most part; the office personnel working in the buildings are on the payroll of that company.

Some of the personnel are on the payroll of Wisconsin Electric Power Company, however.

Wisconsin Electric Power Company makes a monthly payment to Wisconsin Gas & Electric Company covering rent for the use of the buildings of the latter company and covering an apportionment of the salaries of those employees on the payroll of Wisconsin Gas & Electric Company who do work in behalf of Wisconsin Electric Power, and also covering the rent for the use of office equipment, including tables, chairs, desks, files, safes, typewriters and other equipment, and also rent for the use of the buildings.

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This monthly payment is subject to annual revision according to the terms of the agreement. The annual revision involves a complete survey of the use of the personnel, build-

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Edward H. Schmidtman—By Respondents—Direct

ings and equipment at the end of October in each calendar year.

The rentals are revised according to conditions as of that date and become effective on the first of the following

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calendar year.

The revision is made as of October 31 and made effective as of the following January 1, because it takes about two months in order to complete the study and get the rentals worked out on a practical basis.

3437

Q. Are there instances of joint meter reading? A. Yes; I have pointed out that Wisconsin Gas & Electric Company operates the gas business in Racine while Wisconsin Electric Power Company operates the electric business in Racine.

Many of the customers of the gas system are also customers of the electric system and for a number of years, the gas meters were read by gas company employees and the electric meters were read by electric company employees.

Now, however, both meters are read by one crew of meter readers.

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Some amusing incidents occurred in the earlier years when the gas meter reader would come in the morning, the electric meter reader would come in the afternoon, and if it happened to be a particularly muddy day, the housewives didn't think it was a very sensible arrangement.

The meter reading, however, is now carried out jointly by one crew of meter readers and they read both the electric and gas meters. That not only saves the patience of our customers, but it saves considerable money by eliminating double traveling time between stops.

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Eduard H. Schmidtman--By Respondents--Direct

3439

It takes a man about so much time to read a meter and no saving in the reading, itself, is made, but when a man can read two meters for a given amount of travel between stops he can eliminate a substantial portion of the unproductive time involved in the operation.

Delivering of bills is also done by one staff of bill deliverers. They deliver bills for both electric and gas service in Racine. The personnel in the company offices who receive payment of bills, also receive payment for both electric and gas service.

3440

The handling of service applications at the application desk is done jointly for both gas and electric operations in Racine.

Q. Do these joint operations in Racine result in economies to both companies? A. Yes, they do. It seems almost obvious that the maintenance of one crew for one operation and another crew for another similar operation would be much more expensive than having one slightly larger crew do both jobs.

Previously, there were separate application desks, requiring separate personnel. Trouble calls are also handled jointly for both systems by the trouble service crews.

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The cost of such joint operations are shared between the two companies on the basis of service rendered for each;

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trouble service is billed on the basis of number of trouble calls and time spent, meter reading on the basis of number of meters read, and the time required to read the meters, and service applications on the basis of number of applications received for each class of service.

3442

Edward H. Schmidtman—By Respondents—Direct

Q. Are there instances of joint use of telephone facilities?

A. Yes, there are. Wisconsin Gas & Electric Company makes quite extensive use of the private telephone system owned and operated by Wisconsin Electric Power Company.

This telephone system includes an automatic exchange in the Public Service Building, which is the main office building of Wisconsin Electric Power Company in Milwaukee, and a number of trunk lines reaching out to Racine and Kenosha on the south, and out along the routes of the inter-urban railways to the west and to the north.

3443

The trunk lines between Milwaukee and Racine and Kenosha are used very extensively in telephone communications between Wisconsin Gas & Electric Company and Wisconsin Electric Power Company, particularly between Racine and Milwaukee, and are used for Wisconsin Gas & Electric Company business very largely between Racine and Kenosha.

The telephone lines which follow the routes of the interurban rail lines into the outlying districts are known as dispatch lines and have instruments attached to most of the stations along the rail lines and at many points between

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the stations.

These outlying telephone stations are used by Wisconsin Gas & Electric people in telephoning the main office to report outage of lines and to report other sorts of trouble on the system.

One of the portions of the agreement between Wisconsin Electric Power Company and Wisconsin Gas & Electric Company covering the joint use of offices in Racine covers the division of the costs and fixed charges connected with

the operation of the private telephone system of the Wisconsin Electric Power Company.

Wisconsin Gas & Electric is charged a share of the expenses charged to the telephone operating expense job order and is also charged a share of the fixed charges assignable to the investment in communications equipment, such share being based upon the number of telephone instruments assigned wholly or partially to the use of the Wisconsin Gas & Electric Company.

Q. Does this arrangement result in lower costs to Wisconsin Gas & Electric Company? A. Yes, it does. Wisconsin Gas & Electric Company has taken some telephone service within its own buildings from the Wisconsin Telephone Company, but for service between Racine and Kenosha and Milwaukee, most of the communications are done on the

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private system of Wisconsin Electric Power.

This communication is carried out at considerable saving because if it weren't for the system of Wisconsin Electric Power Company, all such calls would be made at toll rates which would result in costs considerably above the costs assigned to Wisconsin Gas & Electric Company by Wisconsin Electric Power.

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Many of the telephone calls made from out in the rural territory of Wisconsin Gas & Electric Company come over the commercial lines of the telephone company because the private system of Wisconsin Electric Power doesn't reach into all parts of that territory.

Wherever it is possible, though, these calls are made over the dispatch lines and the toll call is eliminated.

3448

Edward H. Schmidtman—By Respondents—Direct

Q. Does Wisconsin Electric Power Company buy coal for use at the Racine power plant of Wisconsin Gas & Electric?

A. Yes. In answer to a previous question, I testified that about 6,000 tons of coal were burned at the Racine Power Plant in 1939.

3449

A considerably larger quantity than this is consumed in the coal gas plant of Wisconsin Gas & Electric Company at Racine, and because of the large coal purchases for gas operations, Wisconsin Gas & Electric Company is able to earn a lower rate for its coal than would be given Wisconsin

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Electric Power Company in the purchase of its power plant coal alone.

The benefits of the lower price enjoyed by Wisconsin Gas & Electric Company are passed on to Wisconsin Electric Power Company by an arrangement under which the latter company pays the actual costs to the former.

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Q. How about joint use of cars and trucks in the respective companies? A. In carrying out its gas operations in the Racine division, Wisconsin Gas & Electric Company finds it necessary to own and operate a relatively large fleet of automobiles and trucks.

Wisconsin Electric Power Company rents such trucks from Wisconsin Gas & Electric Company for use in operating and maintaining the electric properties in the Racine area.

Wisconsin Gas & Electric Company operates a garage for storing, servicing and maintaining these automobiles and trucks and by renting such equipment, Wisconsin Electric Power Company is able to avoid the necessity of having a separate garage with separate maintenance crews.

Joint use of automotive equipment makes it possible for the two companies to take advantage of diversity in their requirements, also. It would be necessary, if each company maintained its own fleet of trucks, to have enough trucks to take care of any emergency that might arise; in other words,

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to have reserve or spare capacity.

By combining the requirements of the two companies, such spare capacity serves the needs of both and results in a smaller number of machines than would be required if they operated separately in this respect.

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Q. Would you say, then, that the result of this arrangement, again, is the achievement of reduction in operating costs? A. Yes, it is. It does achieve such reduction in costs.

Q. Have you indicated the basis of rentals paid by Wisconsin Electric Power Company? Is the basis here again on actual cost? A. Yes, the rental is an hourly charge which varies according to the size and type of vehicle involved.

This hourly charge includes the fixed charges on the investment in the vehicle, a rent for the space it occupies for storage purposes, fixed charges on the building and tools and other equipment required in the maintenance of the vehicle, and the labor expense involved in those operations.

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Wisconsin Electric Power Company furnishes the drivers for the trucks but that is the only part of the operation of the automotive equipment used in the Racine district that is furnished directly by Wisconsin Electric Power Company. The trucks, themselves, and all operations incident to fur-

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3454

Edward H. Schmidtman—By Respondents—Direct

nishing them, are supplied by Wisconsin Gas & Electric Company, and the rate paid is calculated to cover costs, all elements of costs, but not including any profit.

Q. At the outset of your testimony, you spoke briefly of the Operating Research Bureau. Could you elaborate on your original statement in order to bring out the services furnished by that bureau to the three companies? A. The Operating Research Bureau is a department of the Wisconsin Electric Power Company which is operated for the purpose of providing all three companies of the Wisconsin-Michigan group with certain accounting, statistical and other special services at cost.

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The employees in the Operating Research Bureau are on the payroll of Wisconsin Electric Power Company and the charges made to Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company for the services of this department are based upon the actual time spent by the employees doing work for such other companies, and the expenses incurred in doing that work.

3456

In addition to direct labor charges, the costs billed include such general things as stationery, and a portion of the salaries of the individuals supervising the operation of the department.

Q. And would you elaborate further on the scope of the services which the Operating Research Bureau renders? A.

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One of the types of service rendered by the Operating Research Bureau is that of accounting and auditing. This department conducts the internal audits carried out by the company in auditing its own books in accordance with requirements in connection with financing issues.

Edward H. Schmidtman—By Respondents—Direct

3457

This auditing work involves the preparation of detailed reports on the investigations of various accounts and classes of accounts, including periodic audits of the cash position of the companies, such audits being unannounced as to time of occurrence, inspections of the petty cash accounts, expense reports, the manner in which the different companies are carrying out their billing procedures in terms of the provisions of the more involved rate schedules, and numerous other studies of that general type.

The auditing group has also made extensive studies required in connection with property classifications, such as the studies necessary in working out the original costs of the properties of the companies as required by regulatory authority, and the making of depreciation studies for the purpose of determining proper depreciation rates to be applied to various classes of the operating properties of the companies. 3458

The auditing division also assists in the preparation of accounting data for the annual reports to various regulatory authorities, including the Public Service Commission, Fed-

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eral Power Commission, the Wisconsin Tax Commission, and in the case of Wisconsin Michigan Power Company, the different Michigan commissions with authority over the operations of the company.

The Operating Research Bureau also renders extensive tax consulting service to all three companies of the group. The people who do this kind of work make searching audits of the income tax returns of the companies and prepare material to be used in behalf of the companies at conferences

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Edward H. Schmidtman—By Respondents—Direct

and hearings or other appearances before the tax commissions of the two states of Wisconsin and Michigan and take part in negotiations relating to the assessments of ad valorem tax on the operating utility properties of the companies.

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Q. Does the bureau perform services for all three companies in preparing such matters as registration statements, filings under the Securities Act, the Exchange Act, and the Public Utility Holding Company Act? A. Yes, it does. It has participated in the preparation of all such material and statements which have been prepared for the three companies.

Q. And the preparation of original cost studies? A. Yes. It makes those studies and it has completed such studies for all three companies of the group and has reported the results of those analyses to the proper regulatory bodies.

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Q. Does it handle bonus questions? A. Yes. A rather large division of the Operating Research Bureau works exclusively on bonus and wage incentive plans, which have resulted in considerably increased output of labor employed by the company and have also resulted in considerably increased earnings for the employees. The gain-sharing division, which is the name by which this group is designated, makes extensive time studies of all jobs amenable to that type of treatment.

They then establish what are referred to as standard time allowances which represent the amounts of time which an average employee should spend in performing certain operations incident to his work.

Having established standard time allowances, they develop bonus rates which are paid to the employee who performs his work in time which is less than that provided by the standard time allowances for these various operations. The payment to the employee for such superior performance amounts to 40 per cent. of the actual wage for the amount of time saved. 40 per cent. is retained by the company and 20 per cent. is used in the development and administration of the plans.

Thus, the cost of the plans are covered and the saving above that is divided equally between the employee and the company. Some of the employees of Wisconsin Electric Power Company, with whom I happen to be the most fa-

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miliar, earn bonuses ranging as high as 60 per cent. of their monthly wage. Some of them earn no bonus at all.

The new employees who are still new and unfamiliar at their work sometimes earn a negative bonus. In such cases, however, the employee is not penalized but receives his base pay.

Q. Before leaving this department, do you feel that the operations of the bureau on a joint basis—that is, making the services available to all three companies—results in a reduction of costs in the type of service rendered the respective companies? A. Yes. I feel that it does result in costs of such services and I am sure that all three of the companies feel that way about it, too.

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Q. It does result in a reduction in costs? A. A reduction in cost of the type of service rendered by the operating service bureau.

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Edward H. Schmidtman—By Respondents—Direct

Q. And also an increase and maintenance of a high level of efficiency in the work done by the department, which perhaps would not be available if the work were performed by the individual companies? A. We feel that way about it, yes. Being in that department, perhaps, I should be a little modest about it.

Q. I wouldn't. A. But the management of the three com-
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panies has indicated on numerous occasions that they are well satisfied with the quality of service rendered by the department and are very well satisfied with the low costs at which the three companies receive those services.

There are a large percentage of graduate engineers, graduate accountants, employed in the department. The various groups carry on their special lines of work and some of the people in the department do general investigational work.

The work is generally on a very high plane of quality and has apparently been very satisfactory, and I am sure has been very economical.

3468

The Examiner: Well, would the three companies, if left to their own resources, render as good or even better service than the services rendered through the bureau?

The Witness: I am quite sure they would not. Perhaps I don't understand your question. By "service," do you refer to service to the customers, or these special services to the management of the company?

The Examiner: Special services to the management of the company. That is what you were referring to, wasn't it, Mr. Hamilton?

Mr. Hamilton: That is right.

The Witness: I don't think it would be possible for a separate smaller group within each company to serve the companies as adequately and as economically as the Operating Research Bureau does.

The Bureau being a central body, working in the interests of all three companies, is able to coordinate and consolidate many of these investigations on a basis that would be very difficult if the three operated separately. 3470

In considering questions related to taxes, for example, the same uniform policies are followed with respect to all three companies on tax matters.

The auditing is carried out in such a way that when certain weaknesses in accounting practices are discovered in the case of one company, those same things are looked for and eliminated in the case of the others where groups working separately wouldn't have the benefit of the broader experience that has been gained by the department working in general with all three. 3471

The Examiner: Isn't that a good point to stop for lunch?

Mr. Hamilton: Yes.

The Examiner: Very well, we will recess until 2:00 o'clock.

(Whereupon, at 12:35 o'clock p. m., the hearing recessed to reconvene at 2:00 o'clock p. m.)

3472

Edward H. Schmidtman—By Respondents—Direct

AFTERNOON SESSION

(The hearing was resumed at 2:00 P. M.)

The Examiner: You may proceed..

Whereupon EDWARD H. SCHMIDTMAN the witness on the stand at time of recess, resumed the stand, was examined and further testified as follows:

3473

Direct Examination by Mr. Hamilton (resumed):

Q. Does Wisconsin Electric Power Company furnish printing service to its affiliated companies in the Wisconsin Michigan group? A. Yes, it does. The printing department of Wisconsin Electric Power Company prints such things as letterheads, and accounting forms, and various other items of printed material for both Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company.

This service is billed to the affiliates at cost and results in lower costs to them than would be the case if they had the printing done by outside concerns.

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Q. The cost being on the basis of an allocation of direct labor and materials and supplies devoted to the process? A. Yes. That is the basis on which the cost is determined. It includes labor and materials and use of machines and

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other equipment, and property employed in the service.

Q. In that connection you maintain a small printing plant, do you not, in Milwaukee? A. Yes. Wisconsin Electric Power Company maintains a printing plant which is operated by printing department personnel.

Edward H. Schmidtman—By Respondents—Direct

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The costs of operating the printing plant are met directly by Wisconsin Electric Power Company, and the services of that plant, for the other companies, are billed to them as a direct item of expense.

Q. Does Wisconsin Electric Power Company perform stock transfer and other related services for the other two affiliated companies? A. Yes. Wisconsin Electric Power Company maintains stockholders' records and issues dividend checks for Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company.

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This service is rendered by the same staff and in the same offices as that which renders similar services for Wisconsin Electric Power Company.

The charge which is made to the affiliated companies for such service is based on cost.

Q. Do any of the companies perform emergency line work for either of the other two companies? A. Wisconsin Electric Power Company and Wisconsin Gas & Electric Com-

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pany have an operating arrangement, under which line repair crews of one company are made available to perform emergency work on the system of the other.

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Work of this kind is done only in cases of major outages due to storms or other causes, and makes it possible for the repair services not being used by one company to be called upon by the other, to restore the lines to operation as soon as possible.

By this interchange of repair crews and trucks, it is possible for the two companies to get along with fewer personnel and less equipment of that kind than would be the case if

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Edward H. Schmidtman—By Respondents—Direct

each operated alone, and some saving is realized through this arrangement.

Q. Are collection services performed jointly in certain territories? A. In the cities of Cudahy and South Milwaukee, where Wisconsin Gas & Electric Company renders gas service, and Wisconsin Electric Power Company renders electric service, the collection of all past-due service accounts is carried on jointly for the two companies.

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The issuing of connection and disconnection notices and the collection of cut-off accounts, and petty ledger accounts, are also handled for both companies by personnel of Wisconsin Electric Power Company.

The cost of rendering such services for Wisconsin Gas & —1,600—

Electric Company is billed to that company.

By doing this work for both companies the personnel of Wisconsin Electric Power Company make it necessary for Wisconsin Gas & Electric Company to maintain similar personnel in those communities.

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Q. Are there reciprocal pole contact agreements among the companies? A. There are such agreements between Wisconsin Gas & Electric Company and Wisconsin Electric Power Company. The electric service territories of these two companies are immediately adjacent and there are numerous instances in which it is desirable for the wires of one company to be carried on the poles of the other.

In order to eliminate the need for extensive accounting and billing for the reciprocal use of each other's poles, the two companies have agreed that each shall be permitted, without charge, to string its conductors on the existing poles of the other company.

We refer to this as a reciprocal pole contact agreement. The arrangement makes it possible to carry the lines of both companies, where they coincide, with one row of poles, eliminating the need for two rows, and the reciprocal aspect of it eliminates the need for accounting and billing for such use.

Q. Is the effect of these arrangements also to effect economies, in that additional rights of way are unnecessary? A.

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Yes, that would come into the picture if the arrangement were not in effect and each company had to provide its own pole lines.

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Q. Additional rights of way would be required? A. Additional rights of way would be required in some instances, and additional line construction would be required.

Q. Are these arrangements applicable to a substantial extent of lines? A. Yes, they are. I don't know offhand just how many poles are used jointly in the systems of the two companies, but, from my knowledge of the positions of the two systems, I am sure that there must be thousands of poles so used.

3483

Q. You have spoken of the joint use of office space in Racine, I believe. Are there other cities in which office space is exchanged? A. Yes, there are two. The offices in Racine, in Cudahy, and in South Milwaukee are used jointly by both Wisconsin Electric Power Company and Wisconsin Gas & Electric Company.

In Cudahy the office is maintained by Wisconsin Electric Power Company and is used by Wisconsin—I must correct that. The office is maintained by Wisconsin Gas & Electric

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Edward H. Schmidtman—By Respondents—Direct

Company and is also occupied by Wisconsin Electric Power Company.

In South Milwaukee the situation is reversed and the two

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arrangements are regarded as offsetting each other, with respect to cost and value of service rendered, so no billings for use of facilities are made in connection with these two joint offices.

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Q. And here again, does the joint arrangement result in economies? A. Yes, it does. It makes it possible for the two companies to perform their business in each of the two cities in a total of two offices, rather than four.

The people who operate the offices serve both companies, being employees of one company in one instance and of the other company in the other instance.

Q. Employees of the company operating the particular office? A. Yes.

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Q. Are there, from time to time, sales of materials and stock among the three companies? A. Yes, there are. There is in effect between the three companies an agreement under which Wisconsin Electric Power Company furnishes materials from its stock to Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company.

Wisconsin Electric Power Company, being the largest company of the three, makes the greatest purchases of materials used in electric operations, and, because of those large purchases, is able to earn quantity discounts, which the other

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two companies could not earn, in some cases, because of their smaller purchases.

Edward H. Schmidtman—By Respondents—Direct

3487

In cases where savings can be made through the utilization of these quantity discounts, Wisconsin Michigan Power Company and Wisconsin Gas & Electric Company purchase such materials from Wisconsin Electric Power Company, at cost to that company plus a small percentage for handling charge.

During the twelve months ending June 30, 1940, the total sales to Wisconsin Michigan Power Company amounted to about five thousand dollars, and the sales to Wisconsin Gas & Electric Company amounted to slightly over forty-nine thousand dollars.

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These sales included such material as wire cable, line hardware, and stationery, as well as a few transformers. The amounts of stock materials transferred under this arrangement varies from year to year.

I might add at this point that all the inter-company services which are rendered by the companies of the Wisconsin Michigan group to each other are billed at actual cost, including direct labor and materials, with reasonable overheads, and also including proper fixed charges on the investment in property and facilities utilized.

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In none of these arrangements is there any element of profit involved.

Q. Returning again for a moment to the operation of

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the generating system of Wisconsin Electric Power Company, will you tell us how that system is operated, functionally, from the standpoint of personnel? A. The power plants of Wisconsin Electric Power Company are operated

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Edward H. Schmidtman—By Respondents—Direct

by personnel of what is known as the power plant department.

This department is under the direct supervision of the Chief Engineer of Power Plants and is one of the departments reporting to the vice president in charge of power.

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The maintenance work in the boiler plant and turbine rooms is also done by the power plant department, but the maintenance of electrical equipment in power plants, as well as electrical equipment in power plant switch houses is done by the station operation division of the electrical distribution department.

This department is supervised by the chief electrical engineer, who also reports to the vice president in charge of power.

All electrical construction of the company is done by the station construction division of the electric distribution department.

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Q. You do your own electrical construction work? A. Yes, we do. The electrical engineering is carried out by the electrical engineering division of the electrical distribution department.

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It will be observed that all these divisions, that have to do with the operation and electrical construction of power plants, report, through their various supervisors, to the vice president in charge of power.

While electrical construction in power plants is done by the company, some of the structural work is done under outside contract.

Edward H. Schmidtman—By Respondents—Direct

3493

The transmission and distribution system is maintained by four overhead construction divisions of the electrical distribution department.

These divisions also do the construction work on the transmission and distribution system.

One of the divisions is located in Milwaukee and covers the Milwaukee metropolitan area.

Another division is at Racine; another, known as the Delafield division, covers the northern and western portion of the territory served by Wisconsin Electric Power Company; and the Hales Corners division covers the southwesterly portion of the territory.

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The work done by the four overhead divisions includes construction and maintenance work on all the transmission and distribution lines of the company as well as work on customers' premises, that has to be done in the operation of the distribution system.

Underground maintenance and construction work on the —1,606— transmission and distribution systems is done entirely by the underground division of the electric distribution department.

3495

Equipment in sub-stations, including both transmission and distribution sub-stations, is operated and maintained by the station operation division, which is the division that also maintains electrical equipment in power plants and in power plant switch houses.

Q. What department handles such matters as trouble service? A. Trouble service is rendered by what we call the trouble division of the electric distribution department. Customers' trouble reports, which come in, in the conduct of

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Edward H. Schmidtman—By Respondents—Direct

the company's business, are studied by a group of men representing the management, the sales department, the electrical engineering department—I should say, the electric distribution department—and the customers' accounting department.

This committee is known as the service committee and its purpose is to study the nature of all customers troubles reported to the company, and to eliminate their causes.

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The report of the service committee shows that, in the twelve months ended July 31, 1940, 33,775 customers' electric service trouble reports were handled by the electric distribution department.

An indication of the general nature of these trouble reports is given by the fact that, of this number, nearly 30,100—1,607—

were due to trouble on customers' equipment on customers' property, and had nothing whatever to do with the Company's transmission and distribution facilities.

Q. Now, how are the load dispatching operations conducted? A. The load dispatchers direct the operation of the transmission systems.

3498

Wisconsin Electric Power Company dispatchers direct the transmission operations of both Wisconsin Electric Power Company and Wisconsin Gas & Electric Company, the latter company having no dispatchers of its own.

Wisconsin Michigan Power Company has its own dispatchers who direct the transmission of energy on the system of that company and coordinate their transmission operations with those of Wisconsin Electric Power Company.

Q. Where are the load dispatchers located? A. The load dispatchers of Wisconsin Electric Power Company are located in Milwaukee, in the Public Service Building, and

Edward H. Schmidtman—By Respondents—Direct

3499

those at Appleton are located in the Appleton power plant—those of Wisconsin Michigan Power Company.

The load dispatchers, in carrying out their operations, estimate system loads from six to twelve hours in advance, under ordinary operating conditions, depending upon the season, the weather conditions, and industrial activity.

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For week-ends and over holidays, load plans for twenty-hour intervals or so are made by the load dispatchers. These dispatchers assign loads to the various plants. That is, they determine in advance what portion of the estimated load for the day shall be carried at each station.

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The load having been assigned to the respective plants, the power plant switchboard operators, who are the operating supervisors of the power plants, decide which generating unit shall be used in carrying the loads assigned to their plants.

In making this selection, they follow a standard schedule developed by the power plant department engineers, varying, according to the total load on the plant and the units available for service.

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This standard schedule has been worked out so as to utilize at all times the most efficient units available. An hourly check is made by the load dispatchers on the demands being carried on all 132,000-volt lines, and also on all other lines operating between power plant or other sources of supply.

Q. How is that check made? A. The check is made by reading the meters at the sub-stations, through which these lines operate, and the purpose of the check is to make sure

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Edward H. Schmidtman—By Respondents—Direct

that the loads being transmitted over the various circuits do not become too high and exceed the reasonable operating capacity of the circuits.

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Q. That check continues day and night, does it? A. Yes, every hour.

Q. Does the work of the load dispatcher become particularly important in the event of emergencies? A. Yes. The load dispatcher is extremely important in cases of emergencies on the power system.

3503

Spinning reserve is maintained in the plants of the Company sufficient to replace the largest unit carrying load during the hours from 7:00 a. m. to 9:00 p. m. on week days.

By "spinning reserve" I mean generating capacity which is actually operating but not carrying load, so that the units are up to speed and the turbines are hot and the units are ready to pick up load without any interruption, in case the largest unit then carrying load should go out of service.

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In case of a forced outage of a plant or of a major generating unit, the load dispatchers immediately redistribute the load on the system among the plants or units still remaining in service, so as to utilize that spinning reserve.

If additional generating capacity is needed, as would be the case if more than the largest unit on the system went out of service, additional capacity is ordered into operation by the power plant switchboard operator.

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The dispatcher orders the switching of lines during an emergency in order to accomplish several things. The first one is to maintain continuity of service to the customers. The

Edward H. Schmidtman—By Respondents—Direct

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second one is to minimize overloads on the lines, so as to prevent successive failures.

That is, if the load on the system is shifted in such a way that a certain circuit is loaded more heavily than it should be, the circuit breakers, which protect that circuit from overload, will operate and throw the circuit out of service.

That, of course, would create a further and more serious situation, and so the dispatchers are very careful to keep loads on lines within reasonable carrying capacities at times of emergency switching. 3506

A third point which the dispatchers accomplish is to transfer the load on the various sub-stations in order to accommodate the emergency load conditions and prevent excessive overloads on the sub-stations, just as they do on the respective transmission circuits.

Then they also switch so as to re-establish service, if any load has been dropped during the emergency, such re-establishment being effected after additional generating capacity has been brought into service.

Many of the line outages on the systems of the companies don't require load to be dropped, but, in case it is dropped,

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it is restored just as quickly as it can be without throwing other load out of service.

Q. I believe you stated that the work of the load dispatchers on the systems of Wisconsin Michigan Power Company and Wisconsin Electric Power Company were coordinated. Will you explain further the manner in which that coordination is maintained? A. That coordination can be

3508 *Edward H. Schmidtman—By Respondents—Direct*

illustrated by describing the dispatching operations that take place when Wisconsin Michigan Power Company desires to deliver dump hydro-electric energy to Wisconsin Electric Power Company.

Under such conditions the Wisconsin Michigan Power Company load dispatcher notifies the load dispatcher of Wisconsin Electric Power Company by telephone that dump hydro-electric energy is available at Appleton.

3509 He also states how many kilowatts of such power can be taken and for what period of time it can be furnished.

Wisconsin Electric Power Company dispatcher accepts the delivery of hydro-electric energy, if the loads on the system are such that that energy can be absorbed and the demands on the steam generating stations are readjusted in order to accommodate the delivery of the hydro-electric power from Appleton.

The delivery is continued until such time as Wisconsin Michigan Power Company finds that water conditions make it necessary to discontinue delivery.

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3510 That may be after a period of a few hours, or it may be after a period of several days, depending upon stream-flow conditions.

When that time is reached, Wisconsin Michigan Power Company's load dispatcher again telephones that they will be ready to discontinue delivery at a certain time.

Upon receiving that notice, the dispatcher of Wisconsin Electric Power Company arranges to have the load, which will be dropped at Appleton, picked up by the steam power plants on the system that he is dispatching.

Edward H. Schmidtman—By Respondents—Direct

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In case Wisconsin Michigan Power Company is in need of dump steam energy, by the use of which it desires to conserve water in its hydro-electric plant ponds, the Wisconsin Michigan Power Company dispatcher will call Wisconsin Electric Power Company dispatcher and request the delivery of the dump steam power.

If the loads on the plants of Wisconsin Electric Power Company are such as to make dump steam power available at the time, the dispatcher at Milwaukee will approve, and the capacity to be delivered and the time of delivery will be agreed upon by the two dispatchers.

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When that time comes the Wisconsin Electric Power Company load dispatcher will order the plants of his company to pick up the amount of load represented by the dump steam deliveries to Wisconsin Michigan Power Company,

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and the plants begin delivering that energy.

Delivery is continued until Wisconsin Michigan Power Company dispatcher again telephones and notifies the dispatcher of Wisconsin Electric Power Company that they wish the delivery of dump steam power to stop, and at that time the plants of Wisconsin Electric Power Company drop the load.

3513

When that load is dropped, the plants of Wisconsin Michigan Power Company pick it up and begin generating energy by using the water that they have stored during the period of delivery of dump steam power from Milwaukee.

Q. The principal office of Wisconsin Electric is at the Public Service Building in Milwaukee, is it not? A. Yes, it is.

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Edward H. Schmidtman—By Respondents—Direct

Q. And what other company offices does Wisconsin Electric have? A. Wisconsin Electric Power Company maintains other company offices at Port Washington, West Allis, Cudahy, South Milwaukee, and Racine.

These offices are maintained at these points for the convenience of the customers, in carrying out their transactions with the Company.

At these offices, Company representatives receive applications for service and receive reports of customers' trouble,

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whether that be of a type relating to outage of service or trouble with appliances or other electrical equipment, or whether it be a complaint on a bill which seems too high, or any other type of customers' trouble report. They are all received at the Company offices and are reported to the proper departments for handling.

Q. In addition to the Company offices, does Wisconsin Electric Power Company maintain local agents throughout its territory? A. Yes, it does.

3516

Q. And where are they located? A. There are nine altogether, located in the following communities:

Oconomowoc, Delafield, Pewaukee, South Milwaukee, Waterford, East Troy, Port Washington, Muskego Center, and Hartland.

In addition to these nine regular local agents, the Company also has three relief agents, who relieve the regular men during their weekly days off, and one relief local agent, who serves in all of the local agents' territories during the vacation season.

Q. What is the function of the local agent? A. The local agent's function is to maintain service on the Com-

pany's system within his territory, to the greatest extent possible for one man, and to also represent the Company in
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all contacts with the customers.

The local agents of Wisconsin Electric Power Company receive applications for service. They render trouble service on the distribution system, within the capacity of one man.

There are certain types of trouble which one man can't remedy, such as would be caused by a heavy storm, with trees falling over the lines.

3518

When there is an outage on the system the local agent sees to it that the situation is made as safe as possible for the public; that is the first thing he does. If it is necessary to do certain switching operations to kill a certain circuit, he will do that.

Then, if it is possible for him to repair the break, he will do it; if it isn't, he calls the division office and has repair crews sent out to restore service.

The local agents also render trouble service on customers' premises, making temporary repairs to equipment and to wiring, and disconnecting defective equipment which he is unable to repair himself.

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They replace heating elements in electric ranges and make various appliance repairs.

Repairs of this kind, such as I have just mentioned, are not made by the trouble division of Wisconsin Electric Power Company; they are made entirely by the local agents, and, if

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the local agent can't handle the repairs, as a matter of convenience for the customer, he will refer the situation to some local electrical repair man or electrical dealer.

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Edward H. Schmidtman—By Respondents—Direct

Our local agents cut off service upon order, and also reconnect service upon order.

They make special meter readings. It isn't the function of the local agents to read meters directly or regularly, but in cases where the regular meter reader has been unable to take a reading, because of locked premises or some other circumstance, word will be left with the local agent and he will make the reading at his earliest opportunity.

3521 The local agents also make the initial reading of a meter when service is first furnished to a customer, and the meter is first installed.

When service is disconnected, the local agent will take the final reading from the meter.

The local agents of Wisconsin Electric Power Company also collect delinquent bills for the accounting department. Bill collection is not one of their regular functions—that is, they don't go from house to house for the purpose of collecting electric service bills.

3522 They will receive payment of bills at their offices, which, in many instances, are at their residences, but the only bills which they do collect by calling on the customer are delinquent accounts, submitted to them by the accounting department of the Company.

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Each local agent is instructed to call the Milwaukee office two to three times daily, in order that there may be passed on to him any calls made at the office, for service, from customers within his district.

Many such calls come to the offices in the Public Service Building, from people living in the city and suburbs, who have cottages in the resort areas in the outlying districts.

Edward H. Schmidtman—By Respondents—Direct

3523

They call at the main office, saying that they are planning to go to their cottages for certain periods and desire to have service reconnected.

Q. In the conduct of the business, I assume a certain number of collection agencies are necessary. A. Yes, they are necessary. The Wisconsin Electric Power Company maintains a total of 257 collection agencies in the electric service territory it serves; 218 of these are in Milwaukee and immediate suburbs; five are in the city of Port Washington; and 34 are located in 31 different rural communities.

3524

Q. These are points at which customers may make payment of bills? A. Yes. They may make payment of bills and these collection agencies will also take messages for the Company although they do not accept applications for service and do not render other service to the customer, ordinarily, other than that of accepting payment of bills.

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Q. That is a rather large number of points at which payments may be made. Is there any particular reason for that? A. The reason for maintaining so many collection agencies is that we want to make it convenient for customers to pay their bills.

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Q. And in general what are these points at which payments may be made? A. Where are the points, did you say?

Q. Not "where", but "what" are the points? A. Oh. These collection agencies commonly are in stores or banks or shops of various kinds, located in the communities—places which are open for business relatively long hours of the day, and—well, the point being that we are trying to make it easy for the customers to pay their bills, not only

3526

Edward H. Schmidtman—By Respondents—Direct

because we desire to accomplish prompt payment, but, if a customer finds it difficult to pay his bill he will have grounds for complaint on the quality of service.

It is just one of the elements, in serving the people—getting the service to them and making it convenient for them to pay for it.

Q. Where are the principal offices of Wisconsin Gas & Electric Company? A. The principal offices of Wisconsin

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3527 Gas & Electric Company are located in Racine, Kenosha, Fort Atkinson, and West Bend.

These offices are the central offices of the four operating divisions of the Company, known as the Racine Division, the Kenosha Division, the Western Division, and the Northern Division, respectively.

Q. And does Wisconsin Gas & Electric Company similarly maintain local agents throughout its territory? A. Yes, it does. Wisconsin Gas & Electric Company has local agents at Union Grove, at Franksville, at Wilmot, at Palmyra, at Johnson's Creek, at Reedsville, at Thiensville, at Random Lake, at Menomonee Falls, at Lomira, at Elkhart Lake, and at West Bend.

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Most of these communities are shown on Exhibit 32.

Q. And is the function of these local agents, in general, the same as the function of the local agents of Wisconsin Electric Power Company? A. Yes, it is, in general. There may be slight variations in some of the detailed duties they perform, but generally they are very much the same.

There is one major respect, however, in which the operation of the system of Wisconsin Gas & Electric Company

differs from the manner of operation of the system of Wisconsin Electric Power Company. —1,620—

That difference arises from the fact that Wisconsin Electric Power Company has an organization which is functional in nature—that is, certain functions are performed over the entire system by certain organizational groups, whereas, in the case of Wisconsin Gas & Electric Company, the organization is set up on a divisional basis, so that all operating functions within a given division or territory are performed by one organization.

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Q. Would you say that the reason for that segregation is the greater extent of the territory of the Wisconsin Gas & Electric Company? A. Yes, that is the reason. The greater extent of the territory makes the divisional type of operation much more economical.

It reduces traveling that would be required if one division or department were assigned the task of performing certain functions over the entire wide-spread territory.

Q. Where is the principal office of Wisconsin Michigan Power Company located? A. The principal office of Wisconsin Michigan Power Company is located in the city of Appleton, but the Company also maintains divisional offices in Iron Mountain, Michigan, and Neenah and Weyauwega, Wisconsin. All of these cities are shown on Exhibit 32.

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Q. And does it employ counterparts of the local agents

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that perform services for the other two companies? A. Yes, it does. It doesn't call them local agents; it calls them district men, but the functions of these district men, on the system of Wisconsin Michigan Power Company, are very

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Edward H. Schmidtman—By Respondents—Direct

much the same as that of the local agents on the systems of the other two companies in the group.

Wisconsin Michigan Power Company is also organized along divisional lines, the Northern Division having its main office in Iron Mountain, and the Southern Division having its main office in Appleton.

There are eight district men in the Northern Division, most of whom have their offices in their residences, and eighteen collection agencies in the Northern Division as well.

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Q. Will you locate the points at which the so-called district men operate? A. Yes. The district men are located at Powers, Loretto, Cooks, Perkins, Champion, Iron River, Paynesville, and Phelps, Wisconsin.

These are the eight district men's locations in the Northern Division.

In the Southern Division, the seven district men are located at the communities of Gillett, Bonduel, Bear Creek, Seymour, Weyauwega, Hortonville, and Hilbert.

In addition to these seven district men, Wisconsin Michigan Power Company maintains 35 collection agencies

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in the Southern Division.

Q. Again from the standpoint of operating personnel, how are the functions of operating the power plant system, the transmission and distribution line systems, distributed within the organization or Wisconsin Michigan Power Company? A. The power plants of Wisconsin Michigan Power Company are operated and maintained by personnel which are a part of the engineering division of the Company, under the supervision of the chief engineer.

Edward H. Schmidtman—By Respondents—Direct

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Maintenance work in the Appleton steam power plant is performed by special maintenance crews, and, in the hydro-electric power plants, it is done by the plant operators, except when the magnitude or nature of the maintenance operation requires additional men.

In such cases, the additional help is brought in from other divisions or from outside the Company.

Assistance from outside the Company is commonly used when the maintenance operations involve such special tasks as electrical welding and other highly specialized occupations.

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The power plant sub-stations are ordinarily maintained by the crews that operate the power plants themselves. The divisional forces are sometimes used for this work, when the power plant personnel are not available and divisional per-

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sonnel are.

The transmission and distribution line and sub-station construction is done by divisional forces under the direction of the division managers.

The maintenance work on transmission and distribution lines and sub-stations is also done by these same people.

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In the case of Wisconsin Michigan Power Company, the organization is arranged on a combination of the functional and divisional basis.

▲ This arrangement of operating personnel has been found most effective and most economical in carrying out the operations of the Company in the area where it serves.

Q. With respect to operating expenses, what has been the record of the electric utilities constituting the so-called Wisconsin Michigan group? A. The operating expenses per kilowatt hour of the companies in the Wisconsin Michigan

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Edward H. Schmidtman—By Respondents—Direct

Group, excluding depreciation and taxes, have been greatly reduced in recent years. In the case of Wisconsin Michigan Power Company, such expenses amounted to 40 one-hundredths of a cent per kilowatt hour of net output in 1927.

By 1939 this had been reduced to 35 one-hundredths of a cent.

By "net output", I mean the total of all energy delivered to the system from all power sources, including net

—1,624—

3539 generation and net purchases.

Now, this reduction of operating expenses, during a twelve-year period, is undoubtedly somewhat less than would be found if comparison were made over a longer period of time.

(Discussion off the record.)

A. (Continuing) It has been impossible to use a longer period of time in this comparison, however, because the records of the Company do not extend beyond 1927, with respect to the small systems acquired and merged at that time.

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In 1920, the operating expenses of Wisconsin Gas & Electric Company, excluding taxes and depreciation, amounted to 2.36 cents per kilowatt hour of net output.

In 1939, they were 1.33 cents per kilowatt hour.

For Wisconsin Electric Power Company, the operating expenses, exclusive of taxes and depreciation, in 1920, were 1.83 cents per kilowatt hour, and, by 1939, this had been reduced to only 58 hundredths of a cent per kilowatt hour of net output.

Mr. Hamilton: May this chart be marked as Respondents' Exhibit No. 35, for identification?

Edward H. Schmidtman—By Respondents—Direct

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The Examiner: Yes, sir.

(The document referred to was marked as Exhibit No. 35 for identification.)

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By Mr. Hamilton:

Q. Will you state, Mr. Schmidtman, what Respondents' Exhibit No. 35 for identification purports to portray? A. Exhibit No. 35 is a chart showing the trend of operating expenses of Wisconsin Michigan Power Company for the—

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Q. (Interposing) Of what company? A. Wisconsin Electric Power Company.

(Continuing)—for the period 1920 to 1939, inclusive.

Q. And has this chart been prepared under your supervision? A. Yes, it has.

Q. The facts shown have been taken from the records of Wisconsin Electric Power Company? A. Yes, they were.

Mr. Hamilton: I offer it in evidence as Respondents' Exhibit No. 35.

Miss Calkins: No objection.

The Examiner: The chart is received under the number assigned to it.

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(The document referred to was received in evidence as Respondents' Exhibit No. 35.)

By Mr. Hamilton:

Q. In the operation of these three electric utility properties, is power production expense a major component of total operating costs? A. Yes, it is, and that fact is shown

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Edward H. Schmidtman—By Respondents—Direct

by the relative positions of the two curves shown in Exhibit 35, the solid curve showing total operating expenses, excluding taxes and depreciation, and the dotted curve showing the power production expense alone.

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Q. Now, in order to make clear the points on the chart covered by the curve, can you state from the chart the cost per kilowatt hour of net output to Wisconsin Electric Power Company in 1920, stating, in the first instance, power production expense? A. In 1920, the power production expense of Wisconsin Electric Power Company, as indicated by the chart, was about 1.22 cents per kilowatt hour of net output.

Q. And the comparable figure, if you will, for 1939? A. The comparable figure for 1939 is slightly over .31 cents per kilowatt hour.

Mr. Hamilton: Will you read that answer back again, please?

(Last answer read by the reporter.)

By Mr. Hamilton:

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Q. Now, if you will, like information as to total operating expense as shown on the chart, excluding taxes and depreciation, for the years 1920 and 1939? A. The total operating expense, excluding taxes and depreciation, of

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Wisconsin Electric Power Company, for the year 1920, was 1.83 cents per kilowatt hour of net output, and for 1939 was .58 cents per kilowatt hour.

Q. Now, you stated, I think, that power production was a major component of operating costs, and referred to the chart in that connection.

Edward H. Schmidtman—By Respondents—Direct

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Will you give us a little more in detail on that observation? A. The fact that power production expense constitutes a major portion of total operating expenses accounts for the major portion of the difference between the total operating expenses of the three companies in the Wisconsin-Michigan group.

In 1939, Wisconsin Michigan Power Company, which had a total operating expense, excluding taxes and depreciation, of 35 hundredths of a cent per kilowatt hour of net output, had power production expenses of only 17 one-hundredths of a cent per kilowatt hour.

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The reason for this low power production cost lies in the fact that the power generation of Wisconsin Michigan Power Company is largely by means of hydro-electric generating stations.

In the operation of such hydro-electric generating stations, there is little opportunity for reducing production expenses, inasmuch as actual operating expenses are low and —1.628— are relatively constant, almost regardless of the output of the plants.

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The expense per kilowatt hour varies almost inversely with the output, which in turn depends very largely upon stream-flow conditions.

In years of high run-off, within the capacity of the wheels of the plants, hydro-electric output is high and the production expense per kilowatt hour of such output is low.

Another reason why the total production expense in such years is low is that less steam make-up power is required in carrying the loads of the system, again resulting in lower power production expenditures.

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Edward H. Schmidtman—By Respondents—Direct

In years in which the flow available for hydro-electric generation is low, the hydro-electric output is down and the production expense in hydro-electric plants, per unit of output, is up.

Similarly, the amount of steam power required in such years is higher and the cost of such power adds to total production expenses, and raises the total unit production expense for the entire company.

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As a result, production expenses of Wisconsin Michigan Power Company are affected more by water conditions than they are by operating economies, and it was for that reason that the production expenses and operating expenses of Wisconsin Michigan Power Company have not been shown in the exhibit, because they would not be indicative of any

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trend toward economies in operating costs.

In the case of Wisconsin Gas & Electric Company, total power costs per net kilowatt hour were 87 hundredths of a cent in 1939.

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As previously explained, Wisconsin Gas & Electric Company purchases almost its entire power requirements from Wisconsin Electric Power Company.

The rate which it pays for such power includes production expenses, as well as fixed charges on facilities utilized in generating the energy and delivering it to the system of Wisconsin Gas & Electric Company.

Although Wisconsin Electric Power Company passes on to Wisconsin Gas & Electric Company the benefit of savings it has accomplished in lowering power production expenses, the rate which must be charged for this service must neces-

Edward H. Schmidtman—By Respondents—Direct

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sarily continue to include fixed charges on investment in facilities, and, for that reason, no great change would appear in the power costs of Wisconsin Gas & Electric Company, and there is very little opportunity for that company to develop any appreciable economies in its power production expense.

In the case of Wisconsin Electric Power Company, however, there is more opportunity, which has been taken advantage of in the operations of the Company.

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In 1939, the total operating expense was 58 hundredths of a cent per kilowatt hour.

Advantage which has been taken by this Company of possible economies in power generation is shown by the rate at which the power production cost curve in Exhibit 35 has fallen during the period indicated.

These curves show that a major portion of the total saving—or, rather, the total reduction in all operating expense—was achieved through the reduction in power production expense.

In 1920, power production expenses constituted 67 per cent. of total operating expenses shown in Exhibit 35. In 1939, they constituted 53 per cent. of the total operating expenses. 3555

During the 19-year period covered by Exhibit 35, the total operating expenses per kilowatt hour of net output were reduced by 68 per cent., and the production expense per kilowatt hour of net output was reduced by 75 per cent.

Other expenses than power production expense were 61 per cent. of the total in 1920, and—no, I have become confused here.

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Edward H. Schmidtman—By Respondents—Direct

Other operating expenses than power production expense were 61 hundredths of a cent per kilowatt hour in 1920, and were 27 one-hundredths of a cent per kilowatt hour in 1939, this change representing a reduction of 5¢ per cent. in expenses other than power production.

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Q. Will you explain the reasons for this rather sharp decline in power production expense in the period indicated on Exhibit No. 35? A. The reason for the marked reduction in power production expenses of Wisconsin Electric Power Company, during the period shown, lies in the important improvements in the design and operation of steam power plants which were developed by Wisconsin Electric Power Company.

The average heat consumption of the plants of the Company was 37,332 B. t. u. per kilowatt hour of net output in 1920, and 13,674 B. t. u. per kilowatt hour of net output in the year 1939.

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As a result of this saving, electrical energy was produced in 1939 at a heat consumption of only about one-third of that per unit of output that occurred twenty years ago.

Inasmuch as fuel is a major item of expense, this improvement in thermal efficiency of steam generating stations has been a very important element in the reduction of power production expenses of the company.

The Examiner: Let us have a recess of five minutes.

(Whereupon a short recess was taken.)

Edward H. Schmidtman—By Respondents—Direct

3559

By Mr. Hamilton:

Q. Had you finished your statement, Mr. Schmidtman?

A. Not quite. I just stated that inasmuch as fuel is a major item of expense in the power production of Wisconsin Electric Power Company, the improvement in thermal efficiency was an important factor in reducing production costs.

To indicate the extent to which fuel is a major item of expense, I have some data here on the fuel consumption at the Lakeside plant and the Port Washington plant in 1939.

The Lakeside plant burns midwestern screenings which are brought in by rail. During the year 1939, the average heat content of the coal burned at that plant was 11,459 B. t. u. per pound. The plant burned 527,791 tons, which
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cost an average of \$3.58 a ton.

The average fuel cost for the year was .231 cents per kilowatt hour of net output.

Q. That is at Lakeside, is it? A. That is at Lakeside. Coal is brought to the Port Washington plant by means of coal boats on Lake Michigan. The coal burned at that plant consists of eastern screenings and in 1939 the coal consumed had an average heat content of 12,997 B. t. u. per pound, which is slightly higher than the heat content of the coal burned in the Lakeside plant. 162,166 tons were burned during the year and cost an average of \$4.22 a ton.

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The average coal consumption, or rather the average coal cost per kilowatt hour of net output at the Port Washington plant was .175 cents per kilowatt hour.

In view of the fact that a substantial portion of the company's generation is produced at the Lakeside plant, and that

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Edward H. Schmidtman—By Respondents—Direct

the coal costs per kilowatt hour at that plant was .231 cents per kilowatt hour of net output, it may be seen that coal represents somewhere in the neighborhood of 70 per cent. of the total production cost of the company.

I stated in answer to a question off the record, that the coal costs experienced by Wisconsin Electric Power Company were relatively high and that those high costs justified the heat-saving developments which have been made by the

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3563 company in building and operating these power plants.

Mr. Hamilton: May that chart be marked as Respondents' Exhibit No. 36 for identification?

The Examiner: Yes.

(The chart referred to was marked for identification as Respondents' Exhibit No. 36.)

By Mr. Hamilton:

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Q. Will you explain what Respondents' Exhibit No. 36 for identification portrays? A. Respondents' Exhibit No. 36 is a chart showing the average annual heat consumption of all the power plants of Wisconsin Electric Power Company in B. t. u. per net kilowatt hour of output for the years 1920 to 1939, inclusive, and for a portion of the year 1940.

Q. Has this chart been prepared under your supervision? A. Yes, it has.

Q. And the facts shown have been taken from the records of Wisconsin Electric Power Company? A. They were.

Mr. Hamilton: I offer it in evidence as Respondents' Exhibit No. 36.

Edward H. Schmidtman—By Respondents—Direct

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Miss Calkins: No objection.

The Examiner: It is so admitted under the number mentioned.

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(The chart referred to was received in evidence as Respondents' Exhibit No. 36.)

By Mr. Hamilton:

Q. Does the curve get into 1940, Mr. Schmidtman? A. Yes, it does. The short projection to the right of the vertical line which lies midway between the lines designated as 1938 and as 1940 extends into the year 1940.

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Q. Now, in order to make clear what generating plants are comprehended in this information, would you state them merely by name? A. Yes. The data on this chart include all the steam power plants operated by Wisconsin Electric Power Company in each of the respective years shown on the chart. For the years prior to 1935 the chart covers—I must start that answer over.

For the year 1920, the chart covers the Commerce Street, Oneida Street and Racine plants of the Wisconsin Electric Power Company.

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For the years 1921 to 1935, it includes the Lakeside, Commerce Street, Oneida Street and Racine plants of Wisconsin Electric Power Company.

Q. It does not include East Wells Street? A. That was the Oneida Street plant during those years.

For the years 1936 to the end of the chart it covers the Lakeside, Commerce Street, East Wells Street, Port Wash-

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ington and Racine Plants.

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Edward H. Schmidtman—By Respondents—Direct

The height of the curve at any line designated as a year represents the average heat consumption in British Thermal Units per net kilowatt hour of output for all of the plants operated during that year by Wisconsin Electric Power Company.

Q. Now, will you explain the reasons for the rather sharp decline indicated by the curve in the years 1920 to 1922?

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A. The curve begins in the year 1920 prior to the time of construction of the Lakeside power plant. The reduction shown in the year 1921 and in 1922 came about through the efficiency of the Lakeside power plant.

The initial thermal efficiency of the Lakeside plant, although not as high as it became later, was still sufficiently high to lower the over-all heat consumption of the system as a whole, so that by the end of 1921, the average heat consumption for the company's power plants had been lowered to 28,825 B. t. u. per kilowatt hour.

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The further reduction in 1922 and in 1923 came about from the higher efficiencies resulting from improved operations of the equipment in the Lakeside plant.

It will be observed that the curve had begun leveling off by the end of 1923, indicating that the equipment then installed was being operated at about its best efficiency.

Q. And then, subsequent to 1923, another rather sharp

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drop appears on the curve. To what is that attributed? A. That sharp drop comes about from the increased efficiency resulting from the radiant super-heaters installed in boiler number 2 after 1923.

Edward H. Schmidtman—By Respondents—Direct

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By the end of 1923 the capacity of the plant had reached 70,000 kilowatts, which utilized the full steaming capacity of boiler room number 1.

Q. You are referring still to Lakeside, are you not? A. Yes, I am referring to the Lakeside plant. Boiler room number 2, however, went into service after 1923, utilizing the radiant super-heaters, resulting in a sharp reduction of heat consumption.

Operating methods were further improved on the new equipment in 1924 and in 1925 and the curve began again leveling off in 1926 and 1927.

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Q. Has the use of high steam pressure resulted in economies in operation of the generating stations of Wisconsin Electric? A. Yes, it has, and that economy is shown by the continued decline of the curve in Exhibit 36 after the years 1926 and 1927.

High pressures were first adopted at the Lakeside plant in 1926 and were in operation during the year 1927. As I have previously explained, the operation of this high pressure equipment didn't reach its maximum efficiency until after

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certain difficulties had been eliminated, but after that had been done, the heat consumption of the Lakeside plant and of the average for the system, as a whole, resumed its downward trend.

The present capacity of the Lakeside plant was reached in 1930, but the average economy continued to improve until 1933. This continued improvement in economy at the Lakeside plant which is reflected by the downward trend of the curve in Exhibit 36, came about because of decreasing loads

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Edward H. Schmidtman—By Respondents—Direct

on the plant making it possible to carry increasing portions on the high pressure equipment, as I have previously explained.

In 1929 only 23.8 per cent. of the load on the Lakeside plant was carried on the high pressure equipment, resulting in a heat consumption of 14,882 B. t. u. per kilowatt hour of net output.

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In 1933, 85.6 per cent. of the output of the Lakeside power plant was generated by means of the 1,230 pound cycle, reducing the heat consumption of the Lakeside plant to 13,302 B. t. u. per kilowatt hour.

That point is marked by the dip in the curve in Exhibit 36 on the line representing the year 1933.

Following 1932, an improvement in business occurred and demands on the power plants of the companies increased. As a result of these increased demands for service, heavier

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loads were placed on the low pressure equipment in the Lakeside plant, the high pressure equipment being utilized almost fully at that time.

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As a result of putting additional load on the low pressure equipment, the heat consumption of the plant went up, causing an increase in the heat consumption of the system as a whole.

From 1934 to 1935, a slight decrease in heat consumption occurred which became somewhat sharper in 1936 due to the operation of the Port Washington power plant which went into operation at the end of the year 1935.

In order to accomplish maximum over-all economy, the Port Washington plant is operated as a base load plant and

Edward H. Schmidtman—By Respondents—Direct

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the Lakeside station carries the load fluctuations. This type of operation caused increased heat consumption at the Lakeside plant which is now operating at an average economy of about 14,500 B. t. u. per net kilowatt hour.

This increase in heat consumption at Lakeside, however, is more than offset by the reduced consumption at Port Washington, lowering the total for all plants of the company to 13,674 B. t. u. in 1939.

The power plant department of the company which has carried out the design and analyses of all power plant equipment installed by the company, has estimated that a saving of about one and a half million dollars has been realized at

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the Lakeside plant up to the end of 1939 through the use of the 1,200 pound equipment.

This estimate is based upon the investment and the economy of low pressure equipment and high pressure equipment already in service in the plant; that is, the cost of operating the plant on the basis of low pressure equipment entirely has been estimated in terms of the cost of operating the low pressure equipment that is actually in the plant, and the savings which have been realized are measured by the operating costs actually experienced in comparison with that estimated on the basis of all low pressure generation.

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The total fuel saving is estimated at \$2,530,000.00.

Now, offset against this total saving, however, are increased fixed charges of about \$1,000,000.00 in the higher investment required for the high pressure equipment.

The difference between those figures leaves the net estimated saving of one million and a half dollars between the

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Edward H. Schmidtman—By Respondents—Direct

years 1926, when the first high pressure equipment went into service, and the end of 1939.

Q. Has the installation of the new unit at East Wells Street had any effect on the curve? A. Yes, it has. The average heat consumption of the East Wells Street unit in 1939 was 13,128 B. t. u. per kilowatt hour of net output.

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Since that is below the average for the power plants of the company as a whole, it may be seen that it has operated to bring down the average for the company.

I have previously stated that a saving of about \$130,000 has been realized through the operation of the East Wells Street plant during the twelve months ended February, 1940, this saving being the difference between the costs actually experienced in producing the electrical and steam output of the plant and the cost of producing similar output in the old Oneida Street boilers and in other power plants of the company.

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During that twelve-months period, the plant was out of operation for more than two months and it is believed that if it had been operating for the full twelve-months period, the saving would have been even greater than the one we have estimated.

The new boiler and turbo-generator unit being installed at Commerce Street are expected to show savings of the same general order as those shown by the East Wells Street unit. The estimated cost of the electrical energy to be generated in the new Commerce Street unit is .3 of a cent per kilowatt hour and it is estimated that steam for heating purposes will cost not over 22 cents per thousand pounds.

Edward H. Schmidtman—By Respondents—Direct

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In operating the power plants of the three companies, to achieve maximum over-all economy, it should be stated that economy alone is not the sole consideration.

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For the purposes of economy only, most of the load of Wisconsin Electric Power Company would be carried on the Lakeside and Port Washington plants only, but in order to make additional generating capacity available to guarantee continuity of service to our customers, the Commerce Street plant, as now constituted, and the Racine plant, are operated on schedules which make their capacity available to the system as a whole.

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After the new unit goes into service in Commerce Street, that plant will probably deliver more output to the system than it has done in recent years because of the greater efficiency of the new unit.

Likewise, East Wells Street plant will carry increasing portions of the system load because of its efficiency as well as because of the location of the East Wells Street plant and the Commerce Street plant in the heart of the downtown district.

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Location of a power plant in the immediate proximity of the load it serves is desirable, inasmuch as it eliminates the hazards of the transmission line outages attending location of power plants some distance from their loads.

Q. Have plans been laid for the construction of a new unit at Port Washington? A. Yes, they have. The plans have been laid and construction is now actually under way

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for the installation of a second 80,000 kilowatt unit in the Port Washington Plant.

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Edward H. Schmidtman—By Respondents—Direct

Contracts for the major generating equipment have been let and the construction schedule calls for completion by the fall of 1942, but permits of speeding up to the point that the unit will be made available for service sometime earlier than that, possibly in the fall or winter of 1941.

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Q. Do you know the proposed steam pressure of the new unit? A. The new unit will operate at a pressure the same as that of the present unit, 1,230 pounds, and will also operate at a temperature of the same general range as the temperature at which the present unit operates.

Q. You would anticipate then, would you, that the operation of the new unit might further improve the record of the company with regard to heat consumption economy?

A. Yes, it is expected that that will be one of the results of the new unit at Port Washington. The present unit has established a record which has been unequalled by any other power plant in regular operation and it is believed that the new unit embodying the improvements in steam turbine design which have been made in the last five years, will have economies possibly exceeding those in the present plant.

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Miss Calkins: Do you mean any other unit in operation by your company?

The Witness: Any other plant in the world.

Miss Calkins: Any other plant in the world?

The Witness: Yes.

By Mr. Hamilton:

Q. Before leaving Respondents' Exhibit No. 36, would you state the date at which the curve terminates? Does it include six months in 1940?

Edward H. Schmidtman—By Respondents—Direct

3589

The Witness: Will you read the question, please?

(Whereupon the pending question was read by the reporter.)

The Witness: Yes, it covers six months in 1940. The ordinate, or height of the curve, at the point where it terminates, represents the average heat consumption of the five steam generating stations of Wisconsin Electric Power Company during the first six months of the year 1940.

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Q. You have testified previously as to the program of Wisconsin Electric in standardizing its generation of 60-cycle current. Has that program resulted in economies? A. Yes, it has. It has resulted in generating economies as well as economies arising from the simplification of the operation of the distribution system.

At various times during its period of operation, the Commerce Street power plant has furnished four classes of service; namely, 250-volt direct current, 600-volt direct

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current, 25-cycle alternating current and 60-cycle alternating current.

The furnishing of this many types of service is inconvenient and it is expensive. The aim of the company has been to standardize on 60-cycle service and in connection with that aim other classes of service have been reduced and 60-cycle service substituted wherever possible.

New customers in the present direct current area served by Wisconsin Electric Power Company, are being served from the alternating current network and the furnishing of

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Edward H. Schmidtman—By Respondents—Direct

service to customers in that general area is being given under an arrangement, or rather under a program, which is intended to eventually eliminate the direct current service entirely.

We consider this a step toward economical operation of both power plants and transmission and distribution systems.

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Q. Have you data as to the availability for generating purposes of the high-pressure equipment at Lakeside and Port Washington? A. Yes, I have. Wisconsin Electric Power Company keeps records of the hours of operation of all the units in all its power plants. We have been particularly interested in the availability record of the high-pressure boiler and generating equipment installed in the power plant at Lakeside and Port Washington.

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The Port Washington power plant, since the beginning of its operation, has been available the following percentages of time:

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In 1936, it was available 89.8 per cent. of the time.

In 1937, 86.5 per cent. of the time.

In 1938, 95 per cent. of the time, and

In 1939, 88.7 per cent. of the time.

The power plant outages which have occurred during the remaining per cent. of the time have been relatively infrequent. Most of them are scheduled.

The Port Washington power plant has been out of service very little because of unscheduled outages. The latest outage of any power plant of Wisconsin Electric Power Company

Edward H. Schmidtman—By Respondents—Direct

3595

occurred at the East Wells Street plant early in the spring of 1940.

I mentioned a moment ago that the plant was out of service during the twelve months ending February, 1940, and part of that period was due to this outage, resulting from a bursting super-heater tube.

When this tube burst, it was necessary to shut down the boiler and also shut down the generating unit, taking the entire plant out of service. The load being carried by the plant at the time that outage occurred was immediately picked up by other plants of the system and no interruption, whatever, of electric service resulted.

3596

—1,647—

The latest outage at the Port Washington plant occurred in the summer of 1939 when a boiler tube failed, requiring the shutdown of the complete plant.

A substantial load was being carried by the plant at that time and when that load was dropped and shifted to the other plants of the company the frequency fell off for a short period. As I recall, the record indicates that the reduction in frequency during that period was less than one cycle. That would mean a loss in speed of less than 1/60 of the speed at which the units were running.

3597

Service to any of our customers was not interrupted, however, because the spinning reserve at the other plants was sufficient to pick up the load carried on the Port Washington plant.

I previously explained that during the hours of the day in which the major loads are carried, Wisconsin Electric

3598

Edward H. Schmidman—By Respondents—Direct

Power Company maintains spinning reserve equivalent to the load being carried on the largest unit on the system.

That reserve was able to pick up the load dropped by the Port Washington unit without interrupting service to any customers.

An outage of a different type occurred on the system of the Wisconsin Electric Power Company in the fall of 1939 when an aviator flying an airplane decided to try to fly between the wires of a double circuit 132,000 volt line con-

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necting the Lakeside plant with the Racine-Kenosha area. By a stroke of providence he managed to get through all right, but he short circuited both circuits of the transmission line. The plane went on through.

(Discussion off the record.)

3600

A. (Continuing) The short circuit on the transmission line caused the circuit breakers of the Lakeside power plant to open, interrupting service to the Racine-Kenosha area. The Racine plant was in operation at the time and by utilizing the full generating capacity of that station, as well as the full transmission capacity of the 26,400 volt circuits connecting the Lakeside plant with Racine, the company was able to carry the loads in that district until the damage to the line was repaired.

When the circuit breakers on the Lakeside end of the transmission line opened, the sudden reduction of load on the units at that plant caused a momentary increase frequency. This was quickly adjusted for by the governors and normal service continued on the rest of the company's system.

Edward H. Schmidtman—By Respondents—Direct

3601

The latest outage on the system of the Wisconsin Electric Power Company, which caused an interruption in service to customers, occurred on January 1, 1937, at about 1:30 a. m. The New Year's celebration was at its height when one of the cylinder heads on an engine in the Commerce Street

—1,649—

plant blew off.

The live steam escaping into the engine room caused moisture to condense on the switchboard and short circuited the switches serving certain feeders in the downtown area. It was impossible, because of the moisture in the switching room, to reestablish service through those switches, so it was reestablished by bridging the feeders at other points on the system.

3602

For a period of two hours or more a certain portion in the downtown area was darkened.

A circumstance of that kind couldn't occur again because the switching apparatus in the plant is now being located so it will be safe from accidents of that kind.

The old engines have been largely removed and the two remaining in service are operated very seldom. It is anticipated that within the next few years the two remaining engines in the plant will be removed.

3603

Q. Will you relate the installed generator capacity of the Wisconsin-Michigan group to the electric plant investment of the companies comprising that group? A. The total installed generator capacity in the power plants of the three companies of the Wisconsin-Michigan group, at the end of 1939, was 545,480 kilowatts.

3604

Edward H. Schmidtman—By Respondents—Direct

The total book value of electric plant in service of these three companies at that time was \$140,315,612.00

—1,650—

Q. Now, is that before or after depreciation? A. Before depreciation. Dividing the book value by the generator capacity gives an average book figure of \$257.05 per kilowatt of installed generator capacity.

3605

This figure represents all electric plant in service of the three companies, including power plants and transmission and distribution facilities and all other properties devoted to electric service.

According to the census of electrical industries for 1937, the privately owned electric utilities in the United States had an electric plant investment of \$11,936,205,264.00 and an installed generator capacity of 32,192,918 kilowatts.

On the basis of these two figures, the average investment per kilowatt of all privately owned electric utilities in the United States was \$370.77, which is substantially higher than the \$257.05 for the three companies of the Wisconsin-Michigan group.

3606

One of the reasons why the investment per kilowatt of the Wisconsin-Michigan companies is low, is that the investment in the power plants of Wisconsin Electric Power Company is low.

I have previously stated that the investment in the Lakeside plant amounts to only \$83.68 per kilowatt, and that the investment apportioned to the present capacity in the Port Washington plant is \$79.59 per kilowatt.

—1,651—

In keeping down their investment in facilities required to serve their customers, the companies of the Wisconsin

Edward H. Schmidtman—By Respondents—Direct

3607

Michigan group have gone far toward lowering the cost of service to their customers.

Q. Is the combined generating capacity of the Wisconsin Michigan group adequate for its present requirements? A. Yes, it is.

The three companies in this group have power generating facilities with a total dependable generating capacity of 501,310 kilowatts. Of this total, 445,700 kilowatts of capacity is in the generating stations of Wisconsin Electric Power Company.

3608

The Lakeside plant—

Q. (Interposing) Excuse me for a moment. You are distinguishing, are you, between installed capacity and dependable capacity at this point? A. Yes; I will expand that distinction.

The installed generator capacity of a power plant is the rated or name-plate capacity of the generators in that plant and is normally considered the maximum load which those generating units may be called upon to carry continuously. The dependable capacity of a generating station is a measure of the load which that station may be depended upon to carry at the time the need for capacity is the greatest.

3609

The reason why the dependable capacity of a steam plant

—1,652—

may be different from its installed capacity is that in some instances, such as at the Commerce Street plant of the Wisconsin Electric Power Company, the boilers are required to furnish steam for heating purposes as well as steam for operating the turbines.

If the boilers have just sufficient capacity to drive the electric generating units at the rated load, they will be

3610

Edward H. Schmidtman—By Respondents—Direct

unable to furnish steam for heating purposes in addition to that.

When the boilers are furnishing steam for heating purposes, therefore, they are incapable of furnishing enough steam to drive the generating units at the rated load and as a result the dependable generating capacity of the plant is something less than the installed capacity of its electric generators.

3611

In answer to the question as to whether the generating capacity of the three companies is adequate to serve the loads placed upon them, I was pointing out that the dependable capacity of these plants is adequate to carry such loads.

The total installed generator capacity of the generating stations of the three companies of the Wisconsin Michigan group is 545,480 kilowatts and the dependable capacity of those same stations—that is, the load which those stations may be depended upon to carry at the time the combined load upon all of them reaches its maximum—is 501,310 kilowatts.

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Of this total amount, 445,700 kilowatts is the dependable capacity of the stations of Wisconsin Electric Power Company.

The Lakeside plant has a dependable capacity of 303,000 kilowatts. This figure is less than the installed capacity of 310,800 kilowatts because of the fact that the older turbines in the plant are no longer as efficient as they were originally and require more steam from the boilers to drive the generators connected to them at full load.

The boiler plant of the Lakeside station is also limited in its steaming capacity by the fact that fuel of a lower heat

Edward H. Schmidtman—By Respondents—Direct

3613

content is now being burned there than was considered in the design of the furnaces and boilers.

The combination of these two circumstances—that is, the reduced steaming capacity of the boiler due to the use of lower grade coal, and the increased steam requirements of the older turbines—makes it impossible for the boilers to furnish enough steam to drive all the generating units in the plant at rated load.

The dependable capacity of the Port Washington plant is 80,000 kilowatts, the same as its installed generator capacity.

3614

The Commerce Street plant, at the end of 1939, was capable of furnishing a dependable capacity of 27,000 kilowatts.

As I explained above, the boilers in the Commerce Street

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plant are called upon to furnish so much steam for heating purposes during the winter months that they are unable to drive the generating unit at full load during that time.

The dependable capacity of the East Wells Street station is 13,700 kilowatts which is the same as the rated capacity of its turbo-generator.

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The Racine plant may be depended upon for 22,000 kilowatts, which is 1,500 kilowatts below rated capacity.

Here, again, capacity of the boilers, coupled with limited capacity of piping connecting the boilers with the turbines, reduces the ability of the plant to deliver electrical energy.

The generating stations of Wisconsin Gas & Electric Company are not considered as having any dependable capacity at all.

I have explained that the steam plant at Waukesha is not in regular operation and the three small hydro-electric plants

3616

Edward H. Schmidtman—By Respondents—Direct

are operated only when there is enough water in the streams to drive their generating units.

The hydro-electric plants of Wisconsin Michigan Power Company have a combined dependable capacity of 33,900 kilowatts.

Q. As compared with an aggregate installed capacity in the case of the hydro-electric plants of what? A. As compared with a combined installed generating capacity of 36,280
—1,655—

3617 kilowatts.

Q. Now, that dependable capacity of these hydro-electric plants is available only at certain times of the year, but is treated as dependable capacity in this instance for what reason? A. It is treated as dependable capacity in this instance because that is the capacity which the operating records of the plants show could be available at the times when the peak demands on the system occur.

There are other times of the year when the load-carrying ability of the hydro-electric plants of the Wisconsin Michigan Power Company drops to a figure in certain years of less
3618 than 33,900 kilowatts, but those occurrences come at times when the load on the system is not at its peak and it is of no importance whether the capacity is available at that time or not, as long as there is enough of it to carry those reduced loads.

The dependable capacity of the Appleton steam plant is 20,000 kilowatts, the installed generator rating, and that of the Iron River Diesel engine plant is the same as its generator rating of 1,710 kilowatts.

The maximum demand which has occurred up to the present time on the combined systems of the three companies

Edward H. Schmidtman—By Respondents—Direct

3619

was 350,600 kilowatts, and took place on December 19, 1939. Of this demand, Wisconsin Michigan Power Company carried 40,000 kilowatts, and Wisconsin Electric Power Company —1,656— carried 310,600 kilowatts.

At the time that demand was placed on the system of the three companies, the dependable capacity available to carry load exceeded that demand by 150,710 kilowatts, which may be considered system reserve at the time of the maximum all-time peak.

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This amount of reserve is more than adequate, inasmuch as it more than covers the ratings of the two largest units on the system.

Reserve requirements based on the capacity of the two largest units on the system are considered adequate inasmuch as they would provide continuous service in case the largest unit on the system were out of service for repairs and some unforeseen accident should occur to the second largest unit which, at that time, might be carrying load.

The two largest units now on the system of the three companies are the 80,000 kilowatt unit at Port Washington, and one of the 60,000 kilowatt units at Lakeside, making a total of 140,000 kilowatts which may be compared with the reserve capacity of 150,710 kilowatts.

3621.

Q. You have already testified that an additional unit is under construction at Commerce Street, and that an additional unit is proposed at Port Washington. Completion of those two units will add how many kilowatts to the rated —1,657— generator capacity of the combined system? A. Completion

3622

Edward H. Schmidtman—By Respondents—Direct

of the installation of those two units will add a total of 115,000 kilowatts to the rated generator capacity of the plants of the three companies.

Q. And would you anticipate that that full amount would be dependable capacity? A. Yes, it will be entirely dependable.

3623

Now, in addition to the 35,000 kilowatts of generating capacity which will be added to the Commerce Street plant in the form of a new unit, the dependable capacity of the present equipment in the Commerce Street plant will be increased to 30,000 kilowatts by the added boiler capacity which is going in along with the new generating unit, so that the dependable capacity of the system will be increased by the 35,000 kilowatts representing the new unit, plus 3,000 additional kilowatts representing the improvement in boiler capacity at the Commerce Street plant.

This means that the total additional dependable capacity resulting from the installation of the Commerce Street unit and the Port Washington unit will be 118,000 kilowatts.

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Q. You have also testified that a storage reservoir at Michigamme in the Wisconsin Michigan territory, is under construction, and that completion of that reservoir will add additional capacity to the system. Will you state the amount of that capacity? A. The additional capacity that will be

—1,658—

realized at the present power plants of the Wisconsin Michigan Power Company on the Menominee River, through the completion of the Michigamme River Reservoir will be 3,700 kilowatts and the increased output to be released from the utilization of the water which will be impounded and real-

Edward H. Schmidtman—By Respondents—Direct

3625

ized at that reservoir will amount to seven and a half million kilowatt hours per year at the present plants of Wisconsin Michigan Power Company.

Q. And is that figure of 3,700 kilowatts to be regarded as dependable capacity? A. Yes, it will be dependable capacity of the highest order because it will result from the utilization of water whose flow will be under control.

Mr. Hamilton: This is a convenient stopping point,
Mr. Examiner.

3626

The Examiner: All right, we will recess until 10:00 o'clock tomorrow morning.

(Whereupon, at 4:30 o'clock p. m., the hearing was adjourned until 10:00 o'clock a. m., September 13, 1940.)

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BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER*of*

THE NORTH AMERICAN COMPANY, *et al.*

3629

Hearing Room 1102,
Securities and Exchange
Commission Building,
Washington, D. C.,
Friday, September 13, 1940.

Met, pursuant to adjournment, at 10 :00 o'clock a. m.

Before:

W. W. SWIFT, *Trial Examiner.*

3630

Appearances:

CHARLES S. HAMILTON, JR., and
S. PEARCE BROWNING, JR., of Sullivan & Cromwell,
48 Wall Street, New York City, Attorneys for the
Respondents.

RALPH C. BINFORD, and
MISS E. H. CALKINS, Attorneys for the Securities and
Exchange Commission.

PROCEEDINGS

The Examiner: The hearing will come to order.

EDWARD H. SCHMIDTMAN resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton (Continued):

Q. Are the transmission and distribution facilities of the Wisconsin-Michigan group adequate for the companies' requirements? A. Yes, they are. The companies have continuously kept pace with transmission and distribution requirements by extending and strengthening their systems wherever increased loads indicated that additional capacity was required or would be required.

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The frequency and voltage on the systems of the companies is maintained according to high standards. Transmission lines and sub-stations are carefully designed in order to perform adequate service, and also to furnish that service at minimum investment and operating cost.

As a part of the programs of the companies to keep even with or ahead of transmission and distribution requirements, there will be constructed at the time the new generating unit goes into operation at Port Washington plant, another transmission line from Port Washington to the Milwaukee area.

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There will also be built another sub-station, which I have

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previously mentioned, to operate at voltages of 132,000 and 66,000, which will have an initial capacity of 15,000 k. v. a.

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Edward H. Schmidtman—By Respondents—Direct

The initial section of this sub-station is expected to go into operation early in 1941, but the plans for the sub-station provide for an ultimate capacity of 90,000 k. v. a.

Wisconsin Gas & Electric Company now has under construction a 26,400 volt transmission line between the cities of West Bend and Kewaskum. That line is indicated on Exhibit 32 as being under construction.

3635

The transmission circuits now operating at 26,400 volts between West Allis sub-station in the Milwaukee area, and the Watertown sub-station, are soon to be reconverted to operation at 66,000 volts.

The transmission and distribution facilities of the companies are now adequate to serve present loads and these additions to facilities will keep the system well ahead of requirements for some time to come.

Mr. Binford: Mr. Examiner, some matters affecting the Milwaukee Company financing are being taken up downstairs. I wonder if we could have half an hour recess?

3636

The Examiner: There is no objection to that, is there?

Mr. Hamilton: No objection.

The Examiner: All right. We will just recess until you get back.

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(Discussion off the record.)

The Examiner: Mr. O'Dell has come in to take Mr. Binford's place and we can resume.

Edward H. Schmidtman—By Respondents—Direct

3637

By Mr. Hamilton:

Q. Had you finished your statement, Mr. Schmidtman?

A. Yes, I had.

Q. Is it the practice of the companies in the Wisconsin-Michigan group to carry on a active sales promotion campaigns? A. Yes, it is the practice of the three companies of the Wisconsin-Michigan group to carry on active sales promotion work.

Each company has been actively engaged in work of this kind for a number of years. The promotional work carried on by the companies is directed at all classes of service and each company carries on its programs along the lines considered best suited to the circumstances under which it operates.

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Wisconsin Electric Power Company is the largest of the three companies and has carried on the most active and most extensive sales promotion work of the three.

The same general policies governing the sales promotion activities of the Wisconsin Electric Power Company have also governed similar work of the other companies and so in describing some of the examples of the kind of promotional activities that are carried on, I will choose most of them

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from Wisconsin Electric Power because they offer the widest range of type.

The sales promotional work of Wisconsin Electric Power Company is carried on largely by people in the sales department. In order to facilitate that work and to organize it along logical lines, the sales department has been set up so as to consist of eight individual divisions. These divi-

3640

Edward H. Schmidtman—By Respondents—Direct

sions include the general office division, the appliance service division, the merchandise stores division, the home service bureau, the lighting and rural sales division, the power sales division, the range sales division, and the water heater sales division.

3641

All of these divisions have a bearing on the promotional work carried on by the company, but those most actively engaged in this work are the home service bureau, the lighting and rural sales division, and the power sales and range sales and water heater sales divisions.

Inasmuch as advertising is an important element in the promotion of sales, the advertising department operates under the direction of the vice president and sales manager, so that the work of the sales department and of the advertising department are closely coordinated in promoting the sales of electric service.

Q. How is promotional work in the industrial field carried on? A. Industrial promotional work is carried on by

—1,664—

3642

the power sales division of the sales department.

We regard the industrial field as one of the most important fields served by the system of the companies inasmuch as it represents not only the bulk of the sales made with respect to kilowatt hours, but that field also furnishes a major portion of the revenue received for electric service.

There is still another reason why we regard industrial sales as of great importance to the companies and that is that in offering attractive rates and carrying on promotional policies which result in maintaining a high industrial consumption of electricity in our area, we feel that we are en-

Edward H. Schmidtman—By Respondents—Direct

3643

couraging the industrial growth of the communities where we operate, and in so doing raise general standards, make it possible for the territory to support greater population, and in that manner indirectly promote sales of other classes of service.

In the power sales group there are five general power sales engineers who maintain contact with all the power customers of the company.

Q. You are referring now to Wisconsin Electric Power Company? A. Yes, Wisconsin Electric Power Company, specifically. The other two companies carry on similar promotional work but on a smaller scale. 3644

—1,665—

The industrial territory of Wisconsin Electric Power Company is divided into five areas or districts and one of the five power sales engineers is assigned to each of these five districts.

The power sales engineers handle all power problems brought up by the power customers within their respective districts.

They serve as electric power advisers to their customers and are under instructions to give the customers the most sound advice they can and are also instructed that if any customer brings up any problem concerning the application of power to his business and the power sales engineer is unable to handle it individually, he will bring it in to the general office and someone will be found who can give the customer the kind of advice and technical assistance that he needs in meeting his particular problem. 3645

Each power sales engineer keeps a careful watch over the demand and consumption of each of his customers, and if

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Edward H. Schmidtman—By Respondents—Direct

he discovers that any customer is approaching a point where the magnitude of his consumption, either with respect to demand or with respect to consumption, is bringing him to a point where he can qualify for a different class of service at a lower rate, it is the job of the power sales engineer to advise the customer to that effect and recommend his shifting from the rate under which he is then taking service to

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the other rate under which he could qualify for lower charges.

They also advise the installation of corrective equipment which is electrical equipment that may be installed by customers to improve the power factor of the load they place upon the company's lines.

Ordinarily, this power factor equipment consists of capacitors which draw a leading current and offset the lagging current normally drawn by the type of motors which most industrial customers use in their processes.

3648

A large number of customers, who were originally taking service at secondary voltages and were paying the higher rates charged for secondary service, have installed their own substations and have changed over to primary service and are now being served under the primary rates, which, because of the fact that the customer owns and operates his own substation, are lower than those of the secondary service.

The power sales engineers also advise customers on such matters as proper methods of installing motor-drives for their various machines and in making their factory wiring lay-outs, the installation of metering equipment and all sorts of special applications of electricity to their processes.

Edward H. Schmidtman—By Respondents—Direct

3649

The primary object of the power sales engineer is to make sure that the customers assigned to him are getting their

—1,667—

electric power service at the lowest possible cost under which they can qualify with respect to the company's rates.

As a result of their activity, the industrial power customers of the company have considerable confidence in those individuals and there are many instances in which the power customers have consulted the power sales engineers on matters only remotely related to power matters, but the engineers have taken their jobs so seriously and have worked so earnestly in the interest of the customers, that some of them have been considered by outsiders to be more representatives of the customers than they are of the company.

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The result to the company of this type of promotional activity has been distinctly beneficial with respect to the extent of use of power service by industries in the territories served.

One of the engineers in the power sales division is assigned to industrial heating applications of electricity. He covers the entire industrial area served by Wisconsin Electric Power Company and maintains contact with all industries in that area which have or may have heating applications of electricity in their manufacturing processes.

3651

The activities of the industrial heating engineer have brought to the system of the company considerable load such as electrical heat-treating and melting of the kind I spoke

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of in connection with the Bucyrus-Erie Company, and general furnace operations, as well as a relatively recent applica-

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Edward H. Schmidtman—By Respondents—Direct

tion of electricity manufacturing processes in the baking and drying of enamels by the use of infra-red light. A special type of furnace has been constructed and made available to industries that utilizes infra-red energy for drying and baking enamels.

Our industrial heating engineer has had contact with a number of customers who have made installations of that type.

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Another of the engineers in the power sales division is assigned to the load resulting from air-conditioning equipment.

In the territory served by the companies in Wisconsin and Michigan, the summers are relatively short and not particularly severe. As a result of that condition there has been no rapid development in the use of electricity for air-conditioning.

A number of installations have been made, however, in some of the larger stores in downtown Milwaukee and we feel that the work of the air-conditioning engineer has been distinctly beneficial in encouraging the installation of that type of equipment.

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Two engineers in the power sales division concentrate on commercial cooking and baking applications of electricity.

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They cover the entire territory of the company and maintain continuous contact with hotels, restaurants, bakeries, and all other customers with cooking or baking applications of electricity.

Another group within the power sales division makes special studies of various types related to the sale of elec-

Edward H. Schmidtman—By Respondents—Direct

3655

tricity for general power purposes. They study rate problems including the effect of special rate provisions and proposed rate provisions and also make extensive studies on the relative economies of private plants operated by certain customers as compared with power purchased from the Wisconsin Electric Power Company.

The activities of this group on studies of this kind have been quite influential in reducing the number of private generating stations operated by customers within the territory of the company.

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It has been the policy of the sales department for a number of years to stand willing to furnish service to customers who have generating facilities sufficient to produce a part of their own power requirements. By being willing to connect with such customers and furnishing stand-by or break-down service to them at the standard rates applicable for such service, the company has been successful in establishing contact with a large number of customers who were not willing to purchase their entire power requirements and who would

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not have taken any service from the company at all if the company had insisted on rendering all of it or none of it.

By establishing these connections, the company has been in position to take over the complete service of many of these customers when their own power generating facilities have either worn out or have become obsolete or inapplicable to the uses which they formerly served.

The Wisconsin Electric Power Company is now furnishing the total electrical requirements to thirty-two industrial customers who formerly generated all of their energy, and to

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Edward H. Schmidtman—By Respondents—Direct

nine industries which formerly generated a part of their energy.

The company is also supplying a part of the electrical requirements of twenty-seven customers who previously generated all of their power and to ten industries who have always generated a part of their own requirements.

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These figures show a material reduction in the number of private plants operating in the territory and an appreciable increase in number of customers now being served who formerly were not served.

We feel that the investigations and recommendations of the special group of the power sales division has played a large part in this progress.

Q. Does Wisconsin Electric Power Company cooperate
—1,671—

with dealers in its territory in the sale of electric appliances?

A. Yes, it does. Dealer cooperation is really the foundation upon which the entire merchandising policy of Wisconsin Electric Power Company is based.

3660

The company conducts merchandising efforts on small appliances and lamps and sells ranges and water heaters, and also carries on extensive dealer cooperation in the sale of ranges and water heaters.

The companies of the group do not sell commercial electric equipment of any kind, but confine their activities to appliances and other electrical equipment suited for use in the home.

In 1938, the dealer cooperation policy was strongly emphasized by a sales promotion program which strongly increased the extent of cooperation between the company and

Edward H. Schmidtman—By Respondents—Direct

3661

the dealers. Wisconsin Electric Power Company held a meeting of the electrical dealers, contractors and material houses which was attended by more than 1,800 representatives of these concerns.

At that time, the company agreed to furnish the advertising, to furnish all instructions to purchasers, do the servicing of all appliances under the sales guarantees, and to also finance sales contracts of the dealers.

Those policies have continued in effect and are still being followed today.

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—1,672—

Wisconsin Electric Power Company finances electrical dealers and contractors for rewiring residential and farm buildings, and also finances the sale of electrical farm equipment.

In financing these wiring projects and appliance sales, the company purchases the installment payment contracts from the dealers so that the dealers are not required to carry substantial charge accounts and by so doing, the dealers and contractors are kept in position to make additional sales and to make additional installations without coming gradually to the point where their capital is all tied up.

3663

The company assists contractors who are unable to finance accounts in carrying out such financing. The services of the company engineers are available on problems related to air-conditioning, commercial cooking and baking, without any charge.

These services, you will note, apply to commercial applications of electricity.

The company refrains from direct sales of any general power and lighting equipment or air-conditioning or com-

3664

Edward H. Schmidtman—By Respondents—Direct

mercial refrigeration, or commercial cooking, baking, heating or ventilating equipment.

Those fields are left entirely to the dealers. The company does cooperate, however, in the sale of such equipment by furnishing free the services of its engineers that are quali-

—1,673—

fied to give advice on problems relating to it.

Q. The purpose of this program, of course, is the increased use of electricity, is it not? A. Yes, that is the entire purpose of the program.

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Q. And has the program been successful in that regard?

A. Highly so.

Q. Now, without detailing too much the promotional policies which Wisconsin Electric Power Company has pursued, would you illustrate some of those particular projects that have been undertaken to indicate the general character of the promotional work in other respects than you have already indicated? A. Wisconsin Electric Power Company has conducted certain special programs in connection with its general sales promotion campaign at various times during recent years.

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One of them that was conducted in 1938 was called the "Gift-of-the-Month" plan. It was carried on over a period of several months and was sponsored jointly by the company and by electrical dealers in the territory.

It consisted of a limerick contest. The first four lines of the limerick would be supplied on an official entry blank, and the contestant would supply the last line. The limericks all referred to electrical service, of course, and considerable interest was aroused by the contest.

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Edward H. Schmidtman—By Respondents—Direct

3667

Each month, prizes were awarded consisting of major electrical appliances. The purposes of this contest were, first, to identify the location and identity of the various electrical dealers within the territory so that the public would become conscious of the fact that the dealers are there ready to serve them.

Another idea was to bring the people into the stores. That was accomplished by requiring the entries to be made on an official entry blank which could be obtained only from the dealers.

3668

Another object was to create interest in the particular appliance being offered as a prize each month and also to make the public electrical-conscious by bringing the subject to their attention.

Considerable interest was shown in this "Gift-of-the-Month" plan as indicated by the fact that during the year, 41,000 entries were made. Many customers were brought into the stores and the dealers, themselves, were quite enthusiastic over the results of the plan because it accomplished the four purposes it was intended to, and also stimulated the interest of the dealers, themselves, because they felt called upon on repeated occasions to explain to the customers that electric service can be had at low cost under the rates in effect.

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(Discussion off the record.)

By Mr. Hamilton:

Q. Has the company conducted campaigns directed to insure adequacy of wiring in homes and offices of customers in the territory? A. Yes, it has. The adequate wiring

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Edward H. Schmidtman—By Respondents—Direct

program of the company was inaugurated in 1938 and is being presently continued as one of the regular promotional policies. Realizing that the limited capacity of the wiring installations in many older buildings was a bottleneck in the merchandising of electrical service, Wisconsin Electric Power Company instituted a program in 1938 which has been most beneficial and effective in increasing the sale of electrical service.

3671

This was called the adequate wiring program and was intended to encourage the installation of more adequate wiring either in existing premises or in buildings under construction at the time.

The industrial organization of the territory, including the Electrical League of Milwaukee, enlisted in this program which was carried on by all branches of the electrical industry in the district.

One of the features of the adequate wiring program was a large and complete wiring display at the Milwaukee Home Show. This home show is conducted annually in the city auditorium. It attracts crowds running up to and above

3672

—1,676—

100,000 visitors a year.

It is carried on for a period of slightly over a week. The demonstration that was given at the 1938 home show aroused considerable interest and gave the adequate wiring program an excellent send-off.

At that demonstration, wiring specifications were distributed, sample wiring specifications, and it was made clear that the company stood ready to assist architects and builders and contractors in laying out wiring plans for any buildings.

Edward H. Schmidtman—By Respondents—Direct

3673

The specifications are also made available to home owners and when a person is in the process of constructing a home, if he will let the company know that he is building the home and request assistance, he will be furnished a complete wiring layout answering all the specifications of the wiring code and incorporating numerous modern developments in the arrangement of wiring circuits so as to provide outlets and switches most conveniently arranged for adequate use of electricity in the home.

The specifications in the standard booklet were distributed at the home show. The booklets were very well received inasmuch as the first 5,000 that were printed lasted only two months and reprints have had to be made since that time.

3674

In recognition of the owners of homes which have adequate wiring, certificates are awarded by the Electrical League of Milwaukee certifying that the home at that particular address owned by that individual has an adequate wiring installation.

—1,677—

Q. Have you stated what the Electrical League of Milwaukee is? A. The Electrical League of Milwaukee is an organization of electrical dealers and contractors operating in the Milwaukee area.

3675

We have a common interest in that the contractors are anxious to install a type of wiring system that will support the type of lighting and appliances which are considered requirements in a modern home.

The certificate awarded to owners of adequately wired homes are accompanied by an illuminated bronze frame house number carrying the symbol of the Electrical League.

3676

Edward H. Schmidtman—By Respondents—Direct

A number of low-cost homes are under construction at all times of the year in the territory served by the companies, and the tendency among the builders of those homes who are putting them up just for sale is to minimize on the wiring installations.

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A number of those homes were under construction at the time the adequate wiring program was instituted in 1938. Contact was established with the builders of those homes and the activity of the adequate wiring program did have the effect of improving to some extent the wiring being in-

—1,678—

stalled in those homes.

The company has also been told by a number of those builders that if the adequate wiring program arouses sufficient interest on the part of the public to make it possible for them to recover the cost of more extensive wiring installations on the sale of their buildings, that they will be glad to put them in.

3678

We feel that that has been an appreciable step forward in the elimination of wiring plans which are not considered up to modern standards.

Q. Are there other promotional programs which the company conducts? A. Yes, there are. The home service bureau, which I mentioned as being one of the divisions of the sales department, conducts cooking and lecture demonstrations regularly throughout the year.

One series of those demonstrations is given during the months of January to June, inclusive, and the months of October to December, inclusive.

These demonstrations are given regularly once a week on electric ranges.

Edward H. Schmidtman—By Respondents—Direct

3679

Another series are given twice a month covering electric roasters. Four times a month there are lecture demonstrations on the use of general electrical appliances in the home,

—1,679—

including refrigerators, food mixers, washing machines, flat irons and ironing machines, percolators, waffle irons, and all the other standard electrical home appliances.

These demonstrations have been extremely popular among the women of the territory and have had an average attendance of over 200, resulting in attendance for the year of about 16,000 women.

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These demonstrations which are given in the auditorium of the company's main office building, are scheduled as regular demonstrations, but in addition to these, special ones are given by appointment.

In this class would fall demonstrations and lectures given before Parent-Teacher organizations, church groups, and various other women's groups who meet regularly and arrange to have one or more of their meetings during the season in the company building.

These special meetings occur about once a week and are sandwiched in between the regularly scheduled cooking demonstrations. The average attendance at these is slightly less than at the public meetings, averaging about fifty.

3681

An interesting example of these special demonstrations was a series that was given particularly for brides and prospective brides. The average attendance at these meetings was over a hundred.

Additional demonstrations are given at various points

—1,680—

3682

Edward H. Schmidtman—By Respondents—Direct

all over the territory served and not just within the company's office building.

Our demonstrators go to country churches or town halls, or to any buildings at which the meetings are called, and give their demonstrations covering the particular appliance which is to be covered.

3683

One of the features of these special demonstrations given in the rural territory is that each one is given with the assistance of a modern kitchen sink with hot and cold running water.

It doesn't matter whether the demonstration is given in a tent, we still have the sink with hot and cold running water because the company maintains a special self-contained unit in a fifty-gallon water heater tank which contains a water storage tank, an electric water heater, and a pump, and special piping which makes it possible to deliver the hot water and the cold water to the sink.

We feel that along with our cooking demonstration that sink not only facilitates the demonstration, but it tells a story between the lines.

3684

A new special training activity was recently instituted for the training of the coming generation of housewives. The classes were conducted at Milwaukee Downer College, which is a women's college located in Milwaukee, on adequate wiring and electric ranges and roasters.

—1,681—

These demonstrations were so enthusiastically received that the company was requested to extend the scope to include refrigeration, laundry equipment and other residential electric equipment.

Classes are now offered to other schools in the Milwaukee area on the same basis.

Q. The company maintains an electric home display at its present office in Milwaukee? A. Yes, in the sales quarters of the building in space adjacent to one of the sales rooms, the company maintains a completely equipped electric home.

Q. Does that display attract a substantial attendance during the course of the year? A. Yes, it does. The home is open to the public at all times of the year whenever the offices of the building are opened. The attendance is particularly heavy during the Christmas season when special displays of cookies and candies are made and recipe books, which you will find in a surprisingly high percentage of the households of our territory, are distributed annually to the public.

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Our recipe books have been sent to all parts of the country and 60,000 have been distributed on an average ever since the recipe books have been made available to the public.

The average attendance during the Christmas season runs between 1,000 and 6,000 people per day, averaging for a

—1,682—

3687

year about 75,000 visitors.

Q. I think you mentioned that the company maintains a staff of lighting engineers. Will you elaborate a little further without going into detail on what the function of this particular branch of service is? A. Yes. The lighting engineers work with architects, builders and customers on lighting problems. They are the people who prepare the wiring specifications for home owners who request them.

Each man has his own territory and is responsible for maintaining proper contact with customers in his territory.

3688 *Edward H. Schmidtman—By Respondents—Direct*

In connection with the work of the lighting sales engineers, the company maintains in its sales quarters a laboratory for studying lighting equipment and light effects.

The company has also a force of four home lighting advisers who specialize on lighting in homes. These advisers are women who call at homes by appointment or by canvass. Each woman travels in a light sedan delivery truck and carries with her demonstration equipment and portable lamps and a supply of electric light bulbs.

3689 These women have produced appreciable increased sales and additional lighting load and have had a very good effect on customer relationships.

Q. Does the company sponsor a lecture program? A. Wisconsin Electric Power Company sponsors a lecture
—1,683—

within its territory entitled "The Miracle of Light". This lecture is given by an experienced lecturer in the employ of the company and consists of a demonstration of practical and spectacular lighting effects.

It was conceived in 1934 and was used during the succeeding four years as a part of the "Better Light-Better Sight" campaign which was carried on all over the country.

In 1938 it was revised by the introduction of special equipment and additional features which made it even more spectacular and popular than it was before.

During the first six weeks of the new form, the lecture was given twenty-one times with a total attendance of over 1,650 people. It is now booked widely for high school assemblies and other groups enjoying an attendance of from 500 to a thousand high school students at each showing. It is given at schools only upon request of the school authorities.

Edward H. Schmidtman—By Respondents—Direct

3691

Q Are there campaigns conducted leading toward increased sales of lamp bulbs? A. Each year Wisconsin Electric Power Company conducts two lamp bulb sales campaigns, one in the spring and one in the fall.

Prior to June, 1935, the lighting service schedules of Wisconsin Electric Power Company included free renewal of burned-out lamps to all lighting customers in those schedules
—1,684—

to which free renewals were available.

In June, 1935, a change in electric service rates was made and the free renewal of lamp bulbs was discontinued. In order to make sure that the customers continued keeping themselves supplied with bulbs for replacement of burn-outs, the company instituted the program of conducting these lamp bulb sales campaigns twice a year.

3692

The campaigns are widely advertised by the company and are carried on by the employees and the local dealers. The lamps are sold in sets of six, contained in what is called the "handy household bag", the price of which is equal to the total retail price of each of the six bulbs in the bag.

In order to stimulate these sales, in the fall campaigns the company gives with each bag purchased, a coupon which entitles the purchaser to a free 100 watt bulb. These coupons are accepted by the dealers in exchange for the bulbs and then are redeemed by the company which replaces the bulbs in the stock of the dealers, the particular feature of this being not only to stimulate the sales, but to bring the customer to the dealer's place of business.

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Q. Now, here again, as in all these programs which I have described, the intention is to increase the use of electricity, is that right? A. Yes.

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Edward H. Schmidtman—By Respondents—Direct

Q. And necessarily they would not be conducted unless

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they resulted in increase of sales and service? A. Yes, that is correct. If it appeared that these campaigns were not producing results in the forms of increased sales and service, they would not be continued.

Q. Now, all these illustrations you have been giving relate to Wisconsin Electric Power Company, as I understand it? A. Yes, they do.

3695

Q. You have already stated that the promotional campaign of the Wisconsin Michigan Power Company and the Wisconsin Gas & Electric Company were somewhat more limited. Again, without going into any detail, will you indicate briefly what activities in that direction the latter two named companies do conduct? A. Wisconsin Gas & Electric Company maintains in its office building in Racine, a demonstration kitchen and lecture hall in which meetings similar to those conducted in Milwaukee are held.

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Wisconsin Gas & Electric Company also has lighting advisers and power sales engineers who perform functions similar to those of the specialized groups operating out of the Milwaukee office.

Wisconsin Michigan Power Company has, as one of the features of its promotional work, an electrically equipped kitchen built on a gasoline truck.

—1,686—

This moving kitchen is necessary in order for the company to reach its widely flung territory.

Wisconsin Michigan Power Company also maintains a force of sales people who devote a portion of their time to promotional activities such as those I have described.

Edward H. Schmidtman—By Respondents—Direct

3697

Q. Have the policies of the companies comprising the Wisconsin-Michigan group with respect to electrical rates been progressive in their character? A. They have been very progressive. The management of the three companies has followed a promotional rate policy for many years and rates have been reduced voluntarily by these companies as rapidly as operating conditions made such reductions possible.

These policies have been practiced through a long-range rate reduction program followed by the companies. The structure of the rates is given careful consideration so as to be designed to benefit the companies as well as the customers.

3698

Simplicity in rate structures has also been sought and the companies have been alert to the need for developing new types of rates to meet the requirements of new or different types of service requirements.

During the early years of operation of the companies, the rates were high in comparison with what they are today. That was true of utility systems all over the country. In

—1,687—

1907, the year in which the Wisconsin Railroad Commission was created, Wisconsin Electric Power Company made its original filing of rates on September 1. These rates covered only a single schedule, with two classes of service, one for lighting and one for power.

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The lighting rate was 12 cents per kilowatt hour for the first one hundred kilowatt hours per month, and scaled down to four cents per kilowatt hour for all consumption over 600 kilowatt hours per month.

The power schedule started at 8 cents a kilowatt hour for the first 100 kilowatt hours per month and ranged down-

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Edward H. Schmidtman—By Respondents—Direct

ward to a bottom step of 3 cents per kilowatt hour for all consumption over 600 kilowatt-hours per month.

In the case of lighting service, the minimum monthly bill was \$1.00 and in the case of the power service, the minimum monthly bill was \$2.00 for motors of 2 horsepower or less, plus \$1.00 per horsepower or fraction thereof above two.

3701

The company has always followed the policy of having the most advanced type of rates in effect. In keeping with that policy, on September 1, 1910, the original schedules were revised. The revised schedules which were well ahead of rates in general at that time, provided separate rates for light and power, for residential lighting, for flat rate display lighting, and for short-term light and power, different

—1,688—

schedules for all these different classes of services.

Q. Now, that diversification among classes of service was unusual, was it, at that time? A. It was unusual in Wisconsin. As to what other utilities in other parts of the country were doing, I don't know, but in Wisconsin, this was the first filing of rates that distinguished between these several classes of service.

3702

These rates also embodied other features which were new in electric rates in Wisconsin, the schedule for lighting service including free renewal of electric light bulbs. The power service schedule made provision for two off-peak demand periods, one covering daytime hours shifting with the seasons, and another covering the period between 10:00 p. m. and 7:00 a. m.

During those periods of the day, customers received a premium for reducing their demands on the peak hours and using the energy during the night hours. The residential

rate schedules at that time contained another feature which was new in electric service rates in Wisconsin.

The consumption steps were based on the number of rooms in the home rather than on the number of hours' use of connected load. The connected load basis was commonly used in the state at that time.

The average home, according to the basis on which the rooms were counted at that time, contained three active rooms resulting in a first step of twelve kilowatt hours which

—1,689— 3704

was billed at 12 cents, a second step of 88 kilowatt hours which was billed at 5 cents per kilowatt hour, and all consumption over 100 kilowatt hours were billed at 4 cents per kilowatt hour.

This schedule was a substantial reduction from that filed three years previously.

The present rates of Wisconsin Electric Power Company contain 39 different schedules. Three of these are optional schedules carried over from previous schedules which were changed, and the other 36 are the regular schedules which superseded the earlier forms.

3705

Q. Are the present rate schedules promotional in character? A. The residential rates are very promotional in character, in that they encourage customers to increase their use of service by providing for lower unit charges on the higher steps of the schedule.

—1,690—

Wisconsin Electric Power Company has three different schedules for residential electric service.

Rate 1 covers the Milwaukee metropolitan area including the city of Milwaukee and its immediate suburbs.

3706

Edward H. Schmidtman—By Respondents—Direct

Rate 2 covers the Racine, Cudahy and South Milwaukee districts, and rate 3 covers all other electric service territory of the company.

All three of these rate schedules provide for a minimum monthly service charge of 60 cents, which is billed to the customer whether he takes any electricity or not. This service charge is intended to cover the fixed items of rendering electric service such as fixed charges on the investment in facilities, the cost of reading the meter, accounting for the account, making out the bill, and collecting.

3707

In addition to the monthly minimum fixed charge of 60 cents, rate 1, which is effective in the Milwaukee metropolitan area, specifies a rate of 3.25 cents per kilowatt hour for the first fifty kilowatt hours consumed per month, 2.25 cents per kilowatt hour for the next fifty kilowatt hours consumed per month, 2 cents per kilowatt hour for the next 100 kilowatt hours consumed per month and 1.75 cents per kilowatt hour for all monthly consumption over 100 kilowatt hours.

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3708

These rates are net rates and are not subject to discount.

Q. Or penalties either, is that right? A. No, that is not true. I was going to continue my statement by saying—

Q. Excuse me. A. —that the schedules provide both gross and net rates. If the bill is not paid within the discount period which ordinarily extends ten days beyond the date of delivery of the bill, then it is collected at the gross rate which is shown on the bill along with the net rate.

Rate 2 includes an energy schedule of 2.75 cents per kilowatt hour for the first fifty kilowatt hours per month, 2½ cents per kilowatt hour for the next fifty kilowatt hours per

Edward H. Schmidtman—By Respondents—Direct

3709

month, and for all consumption over 100 kilowatt hours per month, the steps of the schedule are the same as those for rate 1.

Here again, these rates are net. Rate 3 for residential service of Wisconsin Electric Power Company provides an energy charge of four cents net per kilowatt hour for the first fifty kilowatt hours consumed per month, $2\frac{1}{2}$ cents net per kilowatt hour for the next fifty kilowatt hours consumed per month, and for all consumption over 100 kilowatt hours monthly the net charges are the same as in rate 1.

3710

Wisconsin Gas & Electric Company also has three residen-

—1,692—

tial rate schedules.

Q. Did I understand you to say "schedules"? A. Yes, three residential rate—well, rate areas—each distinguished by different charges under the same general residential rate schedule.

One of these rate areas includes the Kenosha and Waukesha districts; the second one includes the cities of Burlington, Fort Atkinson, Watertown, West Bend, Barton, and Whitewater; the third one covers all other electric service territory of Wisconsin Gas & Electric Company.

3711

As in the case of Wisconsin Electric Power Company, the residential rate schedules of Wisconsin Gas & Electric Company provide a minimum monthly charge of 60 cents which is referred to as a service charge and does not carry with it any kilowatt hours to the customer.

The energy steps of the rate in the first two areas served by Wisconsin Gas & Electric Company are the same as the rates charged for electric service under rate 2 of Wisconsin Electric Power Company.

3712

Edward H. Schmidtman—By Respondents—Direct

In the ~~third~~ rate area of Wisconsin Gas & Electric Company, the steps of the energy schedule are as follows:

4.25 cents per kilowatt hour for the first fifty kilowatt hours consumed per month.

2.75 cents per kilowatt hour for the next fifty kilowatt hours consumed per month.

—1,693—

2 cents per kilowatt hour for the next 100 kilowatt hours consumed per month; and

3713

1.75 cents per kilowatt hour for all monthly consumption in excess of 200 kilowatt hours.

Wisconsin Michigan Power Company also has three residential rate areas in Wisconsin and also has two in Michigan. In Wisconsin, the first area includes the Appleton-Neenah metropolitan district; the second includes all the southern division which is the territory centering around Appleton, except the Appleton-Neenah metropolitan area; and the third includes the territory served by Wisconsin Michigan Power Company in northern Wisconsin.

3714

In Michigan, the first rate area includes the city of Iron Mountain and Kingsford and the township of Breitung; and the second rate area includes all other electric service territory of Wisconsin Michigan Power Company in the state of Michigan.

All the residential electric service schedules of Wisconsin Michigan Power Company provide for the net monthly service charge of 60 cents.

In addition to that charge, the rate effective in the Appleton-Neenah metropolitan area carries a charge of 3.75 cents per kilowatt hour for the first fifty kilowatt hours con-

Edward H. Schmidtman—By Respondents—Direct

3715

sumed per month, 3 cents per kilowatt hour for the next fifty kilowatt hours consumed per month, 2 cents per kilowatt

—1,694—

hour for the next 100 kilowatt hours per month, and 1.75 per kilowatt hour for all consumption over 200 kilowatt hours per month.

The rates for residential electric service in the southern division outside the Appleton-Neenah metropolitan area and in the northern Wisconsin territory are the same. They provide, in addition to the net monthly service charge of 60 cents, an energy charge consisting of 4.25 cents per kilowatt hour for the first fifty kilowatt hours consumed per month and for all consumption over fifty kilowatt hours, the rates are the same as in the Appleton-Neenah metropolitan area.

3716

The residential electric service rates of Wisconsin Michigan Power Company in Iron Mountain, Kingsford and the township of Breitung are the same as those in the Appleton-Neenah metropolitan area, and in all other territory in Michigan, the company's residential service rates are the same as those in the northern Wisconsin territory.

Mr. Hamilton: May this document be marked for identification as Respondents' Exhibit No. 37?

3717

The Examiner: Yes, it may.

(The document referred to was marked for identification as Respondents' Exhibit No. 37.)

By Mr. Hamilton:

Q. Will you explain, Mr. Schmidtman, what Respondents' Exhibit No. 37 for identification purports to portray? A.

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3718

Edward H. Schmidtman—By Respondents—Direct

This exhibit is a blueprint chart showing in graphic form the trend of the average price of residential electricity to customers on the system of Wisconsin Electric Power Company and in the United States, as a whole, for the years 1910 to 1939, inclusive.

The price of electricity is indicated in cents per kilowatt hour.

Q. And has this chart been prepared under your supervision? A. Yes, it has.

3719

Q. And the facts shown as to the rate of Wisconsin Electric Power Company have been taken from the record of that Company? A. They were.

Q. Will you state the basis for the curve showing the average for the United States? A. The curve showing the average for the United States was plotted from data published in the statistical bulletin of the Edison Electric Institute.

Mr. Hamilton: I offer the chart in evidence as Respondents' Exhibit No. 37.

Mr. Binford: No objection.

3720

The Examiner: It is so admitted under the number mentioned.

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(The chart referred to was received in evidence as Respondents' Exhibit No. 37.)

By Mr. Hamilton:

Q. Data as to Wisconsin Michigan Power Company and Wisconsin Gas & Electric Company does not appear on Ex-

Edward H. Schmidtman—By Respondents—Direct

3721

hibit No. 37. Can you give the comparable data for those two companies in terms of average rates for the year 1939?

A. As indicated by the curves in Exhibit 37, the average price of residential electricity sold by Wisconsin Electric Power Company in 1939 is slightly over 3 cents per kilowatt hour. The exact figure is 3.01 cents.

The average for the United States as a whole is shown by the exhibit to be slightly over 4 cents per kilowatt hour. The actual figure is 4.03 cents.

Comparable figures for Wisconsin Gas & Electric Company are 3.75 cents per kilowatt hour for 1939 and for Wisconsin Michigan Power Company 3.44 cents per kilowatt hour.

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It will be observed that the figures given for Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company both fall below the average for the United States as a whole.

The Examiner: We will have a short recess.

(Whereupon, a short recess was taken.)

3723

The Examiner: Let us resume, gentlemen.

Mr. Browning: If the Examiner please, we expect that Mr. Schmidtman's testimony will not consume a great deal more time and we had expected that he

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would finish his testimony on Monday. We had then planned to put on the stand Mr. G. W. Van Derzee, vice president and general manager of Wisconsin Electric Power Company.

3724

Colloquy

I am now advised that Mr. Van Derzee has received a subpoena to appear before a Federal grand jury in Milwaukee and that he has been told that he will be called before the grand jury some time next week, the exact time being as yet uncertain.

In view of this situation, we feel forced to request an adjournment until Monday, September 23.

3725

In view of the prior discussions on adjournments, I feel that I should add that this adjournment is in no way an advantage to us, but rather a disadvantage and that we request an adjournment most reluctantly.

Mr. Binford: Mr. Examiner, I understand from counsel for Respondents that there is no other witness available who could continue testimony relative to the properties now under consideration in this case and that they are not prepared to go ahead with any other phase of the case at this time, is that correct?

Mr. Browning: That is correct.

3726

Mr. Binford: Under the circumstances, I have no objection to granting the motion.

The Examiner: Very well, this proceeding, in view of the circumstances, is now continued until 10:00

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a. m. on Monday, September 23.

(Whereupon at 12:20 o'clock p. m., the hearing was adjourned until 10:00 o'clock a. m., Monday, September 23, 1940.)

—1,699—

BEFORE THE

3727

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

3728

Hearing Room 1102,
Securities and Exchange Commis-
sion Building,
Washington, D. C.
Monday, September 23, 1940.

Met, pursuant to adjournment, at 10:00 o'clock a. m.

3729

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

CHARLES S. HAMILTON, JR., and S. PEARCE BROWNING, JR.,
of Sullivan & Cromwell, 48 Wall Street, New York City,
Attorneys for the Respondents.RALPH C. BINFORD, and MISS E. H. CALKINS, Attorneys
for the Securities and Exchange Commission.

3730

Asel R. Colbert—By Respondents—Direct

PROCEEDINGS

The Examiner: The hearing will be resumed.

Mr. Browning: If the Examiner, please, we should like to interrupt Mr. Schmidtman's testimony briefly by putting on the stand Mr. Colbert.

The Examiner: Very well.

Mr. Browning: Will you take the stand, Mr. Colbert?

3731

Whereupon, ASEl R. COLBERT a witness produced on behalf of the Respondents, having been first duly sworn, was examined and testified as follows:

Mr. Browning: I should like the record to show that Mr. Colbert is appearing here under subpoena.

The Examiner: Yes, the record will show that.

Direct Examination by Mr. Browning:

Q. Will you give your full name and address to the stenographer? A. Asel R. Colbert, 738 Oneida Place, Madison, Wisconsin.

3732

Q. Will you give us your occupation, Mr. Colbert? A. I am chief of the Accounts and Finance Department of the Public Service Commission of Wisconsin.

Q. How long have you held that position? A. I have been chief of the department since 1935. Prior to that time I was with the department in the capacity of special public

—1,701—

utility investigator, having first joined the staff of the Public Service Commission in 1931.

Q. You have been with the Wisconsin Commission, then, since 1931? A. I have.

Q. Are you fully familiar with all of the activities of the Wisconsin Public Service Commission, insofar as regulation of utilities is concerned? A. I am generally familiar with all its activities and particularly familiar with the activities dealing with the utility industry.

Q. Will you tell us, briefly, your experience prior to your joining the staff of the Wisconsin Commission in 1931?

A. I graduated from high school in 1920, following which I served a year in the United States Navy. After being discharged from the navy I studied accounting for two years with Pace & Pace and LaSalle Extension University.

After holding a number of relatively minor accounting positions, I became an accountant with the Chicago Heights Terminal Transit Railroad, at Chicago Heights, Illinois, in 1924.

In 1927, I was associated as an accountant with M. W. Cookerow, C. P. A. and attorney at law, associated with the office of C. Bascom Slemph.

In 1928, I joined the staff of the Federal Trade Commission as an accounting examiner engaged in the investigation of utility holding companies and their servicing and operat-

—1,702—

ing companies under the Walsh resolution, and as stated, in 1931 I joined the staff of the Public Service Commission of Wisconsin where I remain today.

Q. You were associated with the Federal Trade Commission from 1928 to 1931? A. I was.

Q. Will you please state briefly the history of regulation of Public Utilities by the Public Service Commission of Wisconsin? A. The regulation of utilities in Wisconsin, in

3736

Asst. R. Colbert—By Respondents—Direct

its modern form, commenced in 1905 when the Railroad Commission of Wisconsin was organized and assumed jurisdiction under the statutes of the Railroad and Telegraph carriers.

In 1907, the regulatory act was broadened so as to include the regulation of electric, gas, water and telephone utilities. The Act was again modified in 1911 so as to increase the statutory authority over the regulation of security issues of utilities.

3737

In 1931, the Railroad Commission of Wisconsin was reorganized as the Public Service Commission of Wisconsin, and the statutes broadened so as to give the Commission increased jurisdiction over transactions between affiliated companies and to provide also for the assessment of the cost of regulation against the utilities regulated.

Briefly, from 1907 the Commission has had broad powers

—1,703—

over the regulation of utilities and has regulated, effectively regulated, the issues of utility securities since 1911.

3738

Q. What is the present composition of the Commission and its staff? A. The Commission is composed of three members appointed by the Governor for terms of six years each. The Commission's staff is organized into several departments which may be classified as the administrative department, consisting of the Secretary of the Commission, and the necessary stenographic and clerical force to take care of the detailed office routines.

There is a legal department consisting of trial examiners and staff attorneys of approximately fourteen.

The engineering department consists of about forty employees whose duties, as the name implies, is to take care

Asel R. Colbert--By Respondents--Direct

3739

of those phases of regulation in which engineering ability is necessary.

We have a rates and research department comprised of about thirteen employees whose duties are basically to exercise continuing jurisdiction over the rates charged by the utilities. We have an accounts and finance department of which I am the chief, which has thirteen employees and whose duties are to administer the accounting regulations of the Commission and the regulation of securities of the utility companies.

3740

There is also a transportation division which administers the statutes dealing with the regulation of the railroad and motor carriers.

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All in all, there are about 150 employees with the Commission.

Q. Will you please describe briefly for us how the Wisconsin Commission exercises its jurisdiction over public utilities? We might take rates first. A. The Commission does exercise jurisdiction over the rates of utilities. All rates must be filed with the Commission and must be approved before they are legal rates.

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Our rates and research department exercises continual supervision of the rates. For example, we not only receive from the utilities an annual report covering the operations of the preceding year, but we receive a monthly report covering the results of operations for each of our large electric utilities, which covers about 85 per cent. of the gross revenues derived from the sales of electricity in the state.

3742

Asel R. Colbert—By Respondents—Direct

These reports are under continual review by the staff and if the indications are that returns being earned are too high, negotiations are undertaken with the utility looking towards a reduction of the rates.

If agreement can not be reached, formal proceedings may be instituted by the Commission on its own motion. There are, of course, also the cases which originate on complaint of the customers.

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By and large, the Commission follows the process of regulating by negotiation to a considerable extent as we have found that actions can be quicker and in general more satis-

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factory where negotiations are undertaken rather than by the immediate institution of a formal proceeding.

3744

In continuing the method of exercising jurisdiction over rates, my department, the accounts and finance department, reviews the reports of each of the utilities. We submit, as a matter of routine, a statement to the rates and research department whenever we find a utility whose reports indicate that its returns are on the high side, following which rates and research will take the necessary steps looking toward reduction in rates.

We have been rather successful in obtaining rate reductions in Wisconsin. Commencing in 1931, when the Commission was reorganized as the Public Service Commission, our rates were a little higher than the national average and our consumption a little lower than the national average.

In the succeeding ten years, we have reversed that situation. Our consumption has been increased above the national average and our rates have been reduced below the national average.

Q. How does the Commission exercise its jurisdiction over service furnished by the utilities? A. Our engineering department has a separate group of engineers engaged in checking the service rendered by utilities. Upon receipt of a complaint from customers, as to the quality of service rendered, the matter is investigated by this staff and if a

—1,706—

complaint is found warranted, action is required to correct the situation.

In addition to the inspections upon complaint, this service inspection is going on continually as a matter of routine. It covers such matters as the voltage at which the current is delivered, the frequency of the current, the error which may be found in the reading of the meters, the listening and talking qualities of telephone service.

3746

In addition to this service inspection work, the Commission has established certain rules governing the service standards in order to assure that the customer is given reasonably adequate service.

Those rules are under revision at the present time. It is expected that through the revision of our service rules, the quality of service may be even improved.

3747

Q. Will you tell us what the Commission does with regard to the accounting procedures of the utilities in Wisconsin? A. The Commission has prescribed a uniform system of accounts which applies to all the various classes of utilities operating in the state.

The first system of accounts was prescribed effective in 1909, and since that date, there has always been a prescribed system of accounts in effect in Wisconsin.

3748

Asel R. Colbert—By Respondents—Direct

The latest system was made effective January 1, 1938, and is substantially the same as that prescribed by the Federal

—1,707—

Power Commission. We require each of the utilities to submit a rather comprehensive report to the Commission annually, giving the facts concerning the operations and the financial status of the utility, together with a considerable amount of statistical information concerning the physical characteristics of the utilities plant.

3749

These reports are reviewed in the office and if inaccuracies are noted, action is taken with the utility looking toward a correction of its accounts.

We, likewise, inspect the records of a large number of utilities annually. All in all, there are about 1,200 utilities operating in the state. Of course, many are very small, involving only \$5,000.00 or less of annual revenue. We can not attempt to audit the accounts of all these utilities, but we do try to cover a large number of them each year and advise them in connection with their records, hoping that by this continual advisory procedure, we will obtain improvement in the accounting methods of the small utilities.

3750

The large utilities are audited at rather frequent intervals. Within the last few years, we have been making investigation of the accounts of all of our large electric utilities in connection with the determination of the original cost of their properties.

The accounts and finance department, likewise, administers the security statutes. Each application for security issues——

—1,708—

Q. (Interposing) Before we get to the security issues, Mr. Colbert, you have testified that some eight utilities which you characterize as "large utilities," do approximately 80 per cent. of the business in the state? A. About eight electric utilities do about 80 to 85 per cent. of the electric business in the state.

Q. Do those eight include Wisconsin Electric Power Company, Wisconsin Gas & Electric Company, and Wisconsin Michigan Power Company, the three Wisconsin subsidiaries of the North American Company? A. They do.

Q. And it was in reference to those eight utilities that you said that you conducted frequent audits? A. Yes, those and others as well.

Q. Did you state how long the utilities had filed annual reports with the Wisconsin Commission? A. The utilities have filed annual reports since 1909. I think the first report was required to be filed for the year ended June 30, 1909.

Q. Are those reports open to the inspection of the public? A. They are.

Q. You were about to describe the Commission's exercise of its powers with respect to the security transactions. Will you describe that? A. Under the statutes, the Commission

—1,709—
has rather broad powers over the issuance of securities by public utilities. Each utility must file an application with the Commission asking for approval of the issuance before the securities may be sold or issued.

These applications are investigated by the accounts and finance department and recommendations made to the Commission with respect to the security issues.

3754

Asel R. Colbert—By Respondents—Direct

We have, I think, a very good record in connection with regulation of utilities securities. The loss sustained by investors who have put their money into bonds of Wisconsin electric, gas, telephone or water utilities, is just negligible when compared with the total amount of securities issued.

We are gradually working toward an improvement in the securities of our utilities. In connection with most of the refunding operations, which have occurred in recent years, the Commission has insisted upon sinking fund provisions being included in the bond indenture so that gradually a reduction in the debt of the utilities may be effected.

A further act which the Commission has taken, which should be far-reaching in its effect on the securities of Wisconsin Utilities, is in connection with depreciation accounting.

About two years ago, the Commission issued orders that each electric, gas, water and telephone utility should file their estimates of depreciation expense for certification by the Commission under the terms of the statutes.

—1,710—

3756

Certifications have been issued since that time so that today, with one or two relatively minor exceptions, depreciation rates have been certified for all of the Class A and B electric, gas, water and telephone utilities operating in the state.

I might explain that Class A and Class B utilities include those having more than \$50,000.00 of annual revenue.

As a consequence of these actions by the Commission, depreciation reserves for electric utilities have increased substantially. They now amount to about 22 per cent. of the

property of the utilities as contrasted with the national average of depreciation reserves of about 11 or 12 per cent. of the depreciable plant.

It is interesting to note also that in connection with a subject as controversial as depreciation, the Wisconsin Commission has been able to certify depreciation rates for all of these utilities with only one hearing involving the electric and gas utilities, and that hearing was directed to the method of accounting for depreciation rather than to the depreciation estimates, themselves.

Q. Does the Commission engage in valuation of utility property? A. It does whenever valuations are necessary. In many rate cases reproduction cost new appraisals of the property will have to be made and our engineering department

—1,711—

ment engages in such work.

There are, of course, cases where appraisals are necessary in connection with the transfer of ownership of property from one utility to another, or from a utility to a municipality in an acquisition case.

Work is also under way at the present time, whereby a continuing property record will be established for the large electric and gas utilities. This continuing property record is designed to show the number of units of each class of plant and has as its goal, among other things, perpetuation of information which will permit appraisals to be made with a minimum of time and expense.

The statutes provide that the Commission shall value the property of utilities and originally that was done for practically all of the larger utilities in the state. These original

3760

Asel R. Colbert--By Respondents--Direct

appraisals were made from about 1909 to 1915 following the organization of the Commission.

The reappraisals have been made subsequently when, as and if necessary.

Q. Does the Commission exercise jurisdiction over consolidations, mergers and acquisitions of utility assets? A. Yes. The statute requires that the Commission give its consent and approval to the transfer of a complete operating unit or system from one utility to another, or to any merger

3761

—1,712—

or consolidation of utility properties.

As a consequence, it is impossible for any of the utilities in Wisconsin to merge or to purchase the assets of another utility, or to dispose of their assets to a utility or to any other person, unless if first obtained the consent and approval of the Commission, and in giving its consent and approval, the statutes require that the Commission must give consideration to the public interest.

3762

Q. Is a certificate of convenience and necessity required to be obtained by a utility before it engages in certain construction? A. In certain instances the Commission grants authority to construct property and no utility may construct additions to the property over and above a certain amount unless it first obtains the authority of the Commission.

An illustration of that is in connection with a proposed addition to the Port Washington Plant of the Wisconsin Electric Power Company; that addition can not be made under the statutes until the company obtains the approval of the Commission to that construction.

Company utilities are required to get approval from the Commission before extending their lines into new territory.

Asel R. Colbert—By Respondents—Direct

3763

The Commission also has power to issue certificates of convenience and necessity to competing utilities in the event that the service rendered by one utility was found to be improper, and inadequate. That power has been exercised

—1,713—

rarely, if ever, but nevertheless the statutory power is there.

Q. Does the Commission scrutinize transactions between affiliated interests? A. It does. The affiliated interest statute was passed in 1931. Under that statute the Commission is empowered to inquire into transactions between affiliated interests. It can inquire into the cost to the affiliated interest of any service rendered to the operating utility and the statute provides that it can disallow, in fact, that it shall disallow any items unless there is reasonably adequate proof of the cost of those services.

3764

The Commission, under that statute, has required the utilities to file their arrangements with affiliated interest with the Commission and has scrutinized, and in a number of cases, has approved, these inter-company contracts where it has been deemed in the public interest to do so.

3765

Q. What is the largest electric utility in Wisconsin?

A. Wisconsin Electric Power Company.

Q. Do the three Wisconsin subsidiaries of the North American Company constitute the largest utility group in the state? A. They do.

Q. Is the size of the utility any factor in the effective regulation thereof? A. I think that size per se has no effect

—1,714—

on regulation. They have essentially the same problems whether the utility be small. In some respects size might

3766

Asel R. Colbert—By Respondents—Direct

make for a reduced cost of regulation in that it would be necessary to deal with only one company as contrasted with a large number of small companies.

Now, there may be a point where size would become a factor such as including the entire utility business of the state within one single company, but as far as I can see, I think size, of itself, does not affect regulation.

3767

Q. Does the fact that the North American Company owns or controls the common stock of the three Wisconsin subsidiaries affect the scope or character of the regulation of those three subsidiaries by the Wisconsin Commission? A. It has not.

Q. Does the existence of the affiliation between the three Wisconsin subsidiaries impair the effectiveness of regulation of those companies? A. No.

Q. Does the fact that Wisconsin Michigan Power Company does business in both the states of Wisconsin and Michigan impair the effectiveness of regulation of that company by the Wisconsin Commission?

3768

Miss Calkins: Just a minute. I think that line of questioning is objectionable because it calls for conclusion of the witness.

—1,715—

This man is undoubtedly an expert, but I think that is an improper line of questioning as to whether or not these relationships between North American and the subsidiaries and the crossing of state lines and the affiliation between these three companies has anything to do with the effective regulation of these companies.

Asel R. Colbert—By Respondents—Direct

3769

I think it calls for a conclusion of the witness which is improper.

The Examiner: Please read the question to me.

(Whereupon, the pending question was read by the reporter.)

The Examiner: Objection overruled.

Miss Calkins: Exception.

The Witness: It has had no effect on the regulation of the Wisconsin Michigan Power Company.

3770

By Mr. Browning:

Q. Has the Wisconsin Commission experienced any difficulty in the regulation of these three Wisconsin subsidiaries of the North American Company?

Miss Calkins: Same objection for the same reason.

The Examiner: I will overrule the objection.

Miss Calkins: Exception.

The Witness: We have had no difficulties in the regulation of the North American subsidiaries operating in Wisconsin. When I say "no difficulties," I don't mean to imply that there haven't been difficulties in the regulatory problems that apply to these

3771

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particular utilities, but regulation, per se, has been no more difficult with these utilities than it has with others.

Mr. Browning: That is all.

3772

*Asel R. Colbert—By Respondents—Cross**Cross Examination by Miss Calkins:*

Q. Mr. Colbert, in speaking of the difficulties of regulating the Wisconsin Michigan group of North American properties, you were referring only to the experience within your personal knowledge since you have been with the Commission, that is, since 1931? A. Yes.

Q. Now, I believe you are the chief of the accounts and finance department of the Commission, is that correct? A. That is.

3773

Q. In your opinion, are you familiar enough with the work of the other departments to testify that those departments have experienced no difficulty in regulating this particular group of companies? A. Yes.

Q. In referring to the statute passed in 1931, which related to transactions, the authority of the Commission in what might be termed inter-company transactions, do I understand you correctly, in believing that the company does not have to come to the Commission for approval of inter-company transactions, but that the Commission has authority under this statute to inquire into them and to make such

3774

—1,717—

rulings after inquiry as may be necessary? For instance, suppose that one of the companies in this group wished to make an upstream loan to the parent company in any amount, would the company have to go to your Commission to get approval of that transaction, or would your Commission simply inquire into it if it felt that it was desirable to do so? A. Upstream loans isn't a good example, because upstream loans are barred in Wisconsin by statute.

Asel R. Colbert—By Respondents—Cross

3775

Q. Well, take some other instance of an inter-company transaction. A. A good example might be a servicing arrangement.

Q. Yes. A. The contractual arrangement for the rendering of a service is not valid or effective until the approval of the Commission is obtained.

Q. Well, is that under specific statute which relates only to service contracts as such, or is that under this general statute which relates to the transactions between affiliated companies? A. It is Section 196.52 of Wisconsin statutes, which deals specifically with the relations of utilities with affiliated interests.

3776

Q. Is that a very long section? A. Yes.

Q. I thought maybe it was just a paragraph or two, but

—1,718—

it is two or three pages? A. Yes, it is two or three printed pages.

Mr. Browning: The statute is in evidence.

By Miss Calkins:

3777

Q. Does the Wisconsin Commission regulate only the issuance of securities which are to be sold to the public, or does it also regulate the issuance of securities to an affiliated company? A. It regulates any securities issued by a public service corporation regardless of to whom the securities are issued.

Q. Now, on your direct examination, you stated that the Commission had effectively regulated security issues since 1911. Now, I don't want you to misinterpret my question because I understand that the Wisconsin Commission has

3778

Asel R. Colbert—By Respondents—Cross

been one of the leaders in the field of regulating public utilities, but I wish you would elaborate upon that, if you can. A. I don't believe I quite understand just what sort of elaboration you refer to.

3779

Q. Well, the word "effectively" is what is bothering me, Mr. Colbert. In the very beginning of your examination, describing generally the work of the Commission, I think you used that exact language, that they had effectively regulated security issues since 1911. A. I see. The question of the degree of effectiveness of regulation becomes, of course, a matter of opinion. In my judgment, I think our regulation of securities in Wisconsin has been effective.

Now, I know that it has been effective in my opinion since 1931. It is true that you can go back into the history of security regulation in Wisconsin and you can find transactions which occurred, which I would not consider, judged by present-day standards, the best regulation.

3780

I do not believe, however, that the comparison of what happened twenty years ago should be made with what would be considered good today, but rather that the comparison should be with what happened in Wisconsin as compared with what was happening elsewhere at about the same time.

I believe that our regulation of securities in Wisconsin has been effective as measured or as compared with what was happening elsewhere at about the same time with respect to issues of securities of the public service corporations.

Q. Well, generally speaking—I don't know whether you are familiar enough with the other statutes regulating utility companies in other jurisdictions—but, is it your opinion that

Asel R. Colbert—By Respondents—Cross

3781

the statutes of Wisconsin give your Commission broader powers than are generally given such regulatory bodies? A. I am not familiar with what the statutes in all other jurisdictions provide, but I do think that our statute in Wisconsin is very broad.

First, it declares that the right to be a public service

—1720—

corporation is a special privilege and that the right of supervising and regulating the issuance of securities shall be vested in the state.

3782

We start, then, with the premise that a public service corporation has no vested right to issue securities in Wisconsin. It is privileged to do so upon obtaining the approval of the state. Our statute further provides that the amount of securities which a public service corporation may issue, shall bear a reasonable relation to the value of the property and to each other.

That is, that the classes of securities shall be proportionate, and the Commission is also authorized to consider the proposed undertakings of the corporation and whether the acts which the corporation intends to do are prudent and afford reasonable protection to the purchasers of securities. I think the whole statute might be summed up by saying that its purpose is to assure that the purchaser of the security is afforded reasonable protection.

3783

We, of course, know he is not guaranteed protection.

Q. Mr. Colbert, would you say that during your experience—

(Discussion off the record.)

3784

*Asel R. Colbert—By Respondents—Redirect**By Miss Calkins:*

Q. Mr. Colbert, would you say that during your experience as an employee of the Commission, that the regulation of the issuance of securities by the utilities Commission operating in Wisconsin, has become increasingly effective? A.

—1721—

3785

I think so. I think, in fact, that it has reflected the tenor of the times. That is, that following the collapse of the securities market in 1929, that the public generally, and regulatory bodies as well, were more concerned with securities. They realized that regulation of securities, perhaps, should be more stringent than it had been in the past.

Now, we haven't any more statutory power today than we had in 1911 with respect to the regulation of securities. There has been some modifications in the statute during that period but essentially it is the same statute.

I believe the administration of it has reflected to a certain extent the tenor of the times and that it has been better in the last ten years than it was in the preceding ten years.

3786

Q. I believe you testified on direct examination, but since I am not sure, I will ask you: Are your Commissioners elected or appointed? A. They are appointed by the Governor with the confirmation of the Senate.

Q. For a six-year term? A. For a six-year term.

Miss Calkins: I think that is all.

(Discussion off the record.)

—1,722—

Redirect Examination by Mr. Browning:

Q. Counsel asked you certain questions with regard to the effective regulation of utilities and in your replies you dis-

cussed certain comparisons and tests, such as the test of Wisconsin against other states. Do I understand correctly that your experience is that the state can effectively regulate the activities of the utility company if it chooses so to do?

Miss Calkins: We object to that on the ground that it calls for a conclusion of the witness.

The Examiner: I think that calls for a conclusion of the witness.

Mr. Browning: Mr. Examiner, it certainly does call for a conclusion. This witness is an expert witness and he is testifying as to his opinions. It is entirely proper in this case for the witness to give conclusions.

3788

The Examiner: Read the question to me again.

(Whereupon, the pending question was read by the reporter.)

The Examiner: I think that that question is proper on cross examination and I overrule your objection.

Miss Calkins: Well, this is redirect.

3789

The Examiner: Well, he is touching on some matters that you brought out in your cross examination as I get this question.

Miss Calkins: I have no objection to the question if it could be modified to the extent of asking for this

—1,723—

witness' opinion based upon his experience.

Mr. Browning: I submit that the question is proper as framed.

The Examiner: I will overrule the objection.

3790

Asel R. Colbert—By Respondents—Redirect

Miss Calkins: Exception.

The Witness: I think the State of Wisconsin has ample power to effectively regulate its Wisconsin utilities.

By Mr. Browning:

Q. And in your opinion, the State of Wisconsin does effectively regulate its public utilities?

3791

Miss Calkins: Same objection for the same reason.

The Examiner: I make the same ruling and you may note your exception.

The Witness: Considering the regulation of utilities as a whole, in my opinion, it has been and is relatively effective. They have not attained perfection in regulation and perhaps we never will, but I think it has been a reasonable and effective regulation.

By Mr. Browning:

Q. Do you feel that any other regulation of your Wisconsin utilities is necessary?

3792

Miss Calkins: Objected to on the ground that it is incompetent, irrelevant and immaterial.

The Examiner: I sustain the objection.

—1,724—

Mr. Browning: Mr. Examiner, it seems to me that, in the first place, the witness is amply qualified to express an opinion on that, and in the second place, that the cross examination was directed to the effectiveness of regulation. The cross examination brought

Asel R. Colbert—By Respondents—Redirect

3793

out certain tests and comparisons. I submit that the question is proper.

Miss Calkins: Cross examination was directed exclusively to an elaboration or explanation of the witness' statement on his direct examination.

Mr. Browning: The Witness is certainly entitled to express his opinion as to effective regulation of utilities.

The Examiner: Yes, but your question asks him if other legislative regulation will improve the situation. It seems to me that is outside of the scope of this hearing and it is irrelevant. That was the basis of my ruling.

3794

Mr. Browning: I think it is very much within the scope of this hearing, Mr. Examiner, because you are trying here, issues which are going to involve not only questions of statutory construction, but questions of constitutionality.

One of the frequently reiterated phrases in this Act is the effectiveness of state regulation. My questions are directed to that subject.

3795

I will reframe the question to replace the last question.

By Mr. Browning:

Q. In your opinion, is any other regulation of the Wis-

—1,725—

consin utilities necessary in addition to that which is now being administered by the Wisconsin Commission?

3796

Colloquy

Miss Calkins: Objected to on the grounds that the opinion of the witness on that subject is incompetent, irrelevant and immaterial.

The Examiner: I don't see much, if any, difference between the question as you reframed it and the original question, and I sustain the objection and if you care to make an offer of proof for the record, you may do so, Mr. Browning.

3797

Mr. Browning: Might it be better to let the witness answer with a motion to strike?

The Examiner: Yes. What have you to say to that, Miss Calkins?—to let the witness answer the question subject to a motion to strike on your part later on?

Miss Calkins: In addition to the objection that the question is irrelevant, immaterial and incompetent, I should also like to add that I further object on the grounds that the witness is not qualified to answer.

3798

The Examiner: Well, I think the suggestion is a good one, the suggestion of counsel is a good one, and I will overrule your objection subject to your right to strike the response if you care to enter it later on.

Mr. Browning: Will you read the question?

(Whereupon, the pending question was read by the reporter.)

The Witness: The question is very broad and has tremendous implications involved. In some respects,

—1,726—

it may be that regulation other than the state is unnecessary. In other respects, joint jurisdiction over

Asel R. Colbert—By Respondents—Recross

3799

some phases of the utilities operations may be desirable.

I don't think that one can answer the question categorically yes or no.

To illustrate, I believe that under our Wisconsin statute, we have very broad, very comprehensive jurisdiction, over the issues of securities of public utility companies, and in order to assure reasonable protection to purchasers of those securities, no further jurisdiction would be necessary.

3800

There are other phases of the utilities operations involving transactions with affiliated interests where additional regulation might be in the public interest.

There are cases of the interchange in power, movement of power over state lines into adjoining districts, where the situation might call for further regulation.

I just can't answer that question categorically, yes or no, because it is just too much involved.

Mr. Browning: That is all.

3801

Recross Examination by Miss Calkins:

Q. I believe you testified on direct examination, Mr. Colbert, that for some period of time you were associated with the Federal Trade Commission during its investigation of holding companies and their subsidiaries prior to the enact-

—1,727—

ment of the Public Utility Holding Company Act. Is that correct? A. I was with the Federal Trade Commission for three years.

3802

Asel R. Colbert—By Respondents—Recross

Q. What was the nature of that investigation? A. I worked in the investigation of Electric Bond & Share Company, Middle West Utilities, United Public Service Corporation, United Public Utilities, Central Illinois Public Service Corporation, and a number of other utilities whose names I don't recall.

Q. Was that work primarily of an accounting nature?

A. Yes.

3803

Q. In your opinion is the regulation provided by the Public Utility Holding Company Act of 1935 unnecessary?

Mr. Browning: Just a minute. Go ahead.

The Witness: Well, that is another one of those very broad questions that I certainly could not answer yes or no to.

Congress has deemed it necessary to pass this Act and we have it as a statute and there are many, many portions of that Act that I think are in the public interest.

3804

By Miss Calkins:

Q. But you don't subscribe to all parts of it, is that correct? A. I don't think so, but I think, in general, I am very
—1,728—
much in sympathy with the Act, and with what is intended to be accomplished.

Q. Mr. Colbert, are you the author of a recent publication in the Public Utilities Fortnightly—I don't know the exact title of it, but it deals with usurpation of state power by S. E. C. regulation. A. I am the author of that article, the title of which is "The S. E. C. Limits State Jurisdiction."

Edward H. Schmidtman—By Respondents—Direct

3805

The Examiner: You may retire. That is all, Mr. Colbert.

(Witness excused.)

The Examiner: Let's have a little recess before we take up anything further.

(Whereupon, a short recess was taken.)

The Examiner: Let us resume.

3806

Whereupon, EDWARD H. SCHMIDTMAN resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton (Continued):

Q. Mr. Schmidtman, prior to the last adjournment, you were in the process of commenting on Respondents' Exhibit No. 37, which is the exhibit with reference to average price of residential electricity. Had you finished your comment?
A. No, I hadn't. I should like to add to what I have already said on this exhibit a few more comments.

3807

—1,729—

It will be noticed that prior to 1916, the average price of residential electricity sold by Wisconsin Electric Power Company was at about the same level or slightly higher levels than that for the United States as a whole, but that following the year 1916, the average price for Wisconsin Electric Power Company was substantially below the national average.

3808

Edward H. Schmidtman—By Respondents—Direct

In 1916, the average price per kilowatt hour of residential electricity on the system of the Wisconsin Electric Power Company was 11.4 cents.

In 1939, it had dropped to 3.01 cents per kilowatt hour. The reduction during the period shown by Exhibit 37 on the system of Wisconsin Electric Power Company was steadily, although not entirely, uninterrupted downward.

A rise occurred in the years following 1917, coming about as a result of increased costs resulting from the World War.

3809

Similar data for Wisconsin Gas & Electric Company, and Wisconsin Michigan Power Company are not available over the period of years covered by this exhibit inasmuch as those companies, up until quite recently, did not segregate residential sales as a separate class of service in their statistics.

The residential sales were included with the general classification called "lighting," and for that reason, it is impossible for us to give statistics over this period for those two companies. We do have the data for the year 1939, however, which show that—

3810

—1,730—

Q. (Interposing) I think you have given the figures for 1939. A. Oh, have I given that? I am sorry. I didn't mean to repeat.

Q. What are the rates provided for large industrial users in the territory? A. Large industrial users in the territory served by our three companies are given attractive rates. I have pointed out before that our managements believe that low industrial rates are of great importance in the over-all service rendered to our communities by our companies. In

Edward H. Schmidtman—By Respondents—Direct

3811

attracting industries to our districts, such rates actually contribute to the general welfare.

In line with that policy, the industrial rates of our companies have been kept at as low levels as would be consistent with reasonable earnings on the class of service rendered.

Wisconsin Electric Power Company serves the largest industrial load of the three companies and because of the concentration and magnitude of that load is able to offer the lowest industrial rates of the three companies.

3812

The industrial rate of Wisconsin Electric Power Company is applicable to customers taking service at primary voltages of 3,800 volts, 13,200 volts, or 26,400 volts, who furnish their own sub-stations for stepping-down the voltage to voltages at which they can use the energy in their plants, and who guarantee a minimum demand of 100 kilowatts.

—1,731—

The rate offered to such customers has a demand schedule and an energy schedule. The demand schedule has two parts, one specifying certain peak hours for which a certain demand schedule applies, and the other part specifying a different schedule for the off-peak hours.

3813

The demand charge which is made for demands which the customers place on the company system during the specified peak hours, start with \$1.90 per kilowatt per month for the first 200 kilowatts of demand. Then they follow with \$1.50 per kilowatt per month for the next 1,800 kilowatts demand, \$1.25 per kilowatt per month for the next 2,000 kilowatts of demand, and \$1.00 per kilowatt per month for all demands in excess of 4,000 kilowatts.

3814

Edward H. Schmidtman—By Respondents—Direct

The off-peak demand charge which is offered to customers as an inducement to get them to make their heavier demands during the hours of the day when the over-all peaks on the system are not at their maximum, begins with a rate of \$1.00 per kilowatt per month for the first 200 kilowatts of demand and 75 cents per kilowatt per month for all demands over 200 kilowatts.

3815

The operation of the off-peak provisions of our industrial primary rate has had a marked effect on the time of occurrence of the peak demands on the system of the company.

Some years ago, it was a regular thing for the peak demands to occur in the afternoon or evening hours, whereas today we have normally anywhere between eight and ten or

—1,732—

eleven of the monthly peaks in the year during the morning hours of the day.

3816

This is due to the shifting of the industrial peak from the evening peak hours to the morning hours and this shifting of the peak has come about as a result of the operation of the off-peak provision of the industrial schedule.

Now, this provision of the schedules is not peculiar to our companies, but we feel that it has been of great value to us in making it possible for us to serve the loads we are now carrying, with less generating and transmission capacity than would be required if that shift had not occurred.

The consumption might be the same as it is today, but still without the off-peak provisions of the industrial rate, the company would have to provide, in addition to the capacity now used during the evening peaks, sufficient capacity

to carry that load which has been shifted from those hours to other hours of the day.

The energy charge of the industrial rate begins with a first step of 25,000 kilowatt hours per month, for which the charge is 1.25 cents. The next step—

Q. (Interposing) Per kilowatt hour? A. Yes; per kilowatt hour. The next step of 25,000 kilowatt hours per month is charged at the rate of 1.1 cents per kilowatt hour.

—1,733—

The next 50,000 kilowatt hours per month are billed at one cent per kilowatt hour. 3818

The next 50,000 kilowatt hours per month are billed at .9 of a cent per kilowatt hour.

The next 50,000 kilowatt hours per month are billed at 8/10 cents per kilowatt hour.

The next 100,000 kilowatt hours per month are billed at .7 of a cent per kilowatt hour.

The next 700,000 kilowatt hours per month are billed at 65/100 of a cent per kilowatt hour.

The next 1,000,000 kilowatt hours per month come at .6 of a cent per kilowatt hour. 3819

And the next 2,000,000 kilowatt hours per month are billed at 58/100 cents per kilowatt hour, and all in excess of 4,000,000 kilowatt hours is billed at a rate of 55/100 cents per kilowatt hour.

Q. Are these energy charges to which you refer applicable whether energy is taken off-peak or on-peak? A. Yes, there is no distinction in the energy schedule as between off-peak or on-peak consumption. That distinction is drawn only in the case of the demand charge.

3820

Edward H. Schmidtman—By Respondents—Direct

The rates I have just given are gross and all bills rendered under this schedule of rates are subject to a standard discount of 5 per cent. on the first \$25.00, and 1 per cent. on all amounts in excess of \$25.00.

—1,734—

3821

The bills are also subject to adjustment for cost of coal. The basic charge in the rates is founded on a coal cost of 20 cents per million B. t. u. at the power plants, and the bills are adjusted in direct proportion to the amount by which the actual coal cost exceeds or falls below the stand of 20 cents per million B. t. u.

For a number of years, in fact as long as I have been with the company, the coal factor adjustment has always been a credit to the customer; that is, our coal cost has been below 20 cents per million B. t. u.

The bills are also subject to an adjustment which rewards the customer for maintaining a power factor in excess of 80 per cent. This adjustment is applied as a direct reduction of the demand in direct proportion to the amount by which his power factor exceeds 80 per cent.

3822

The bills are also subject to a load factor clause which rewards the customer for maintaining a use of maximum demand in excess of 200 hours per month. That is, if the customer's kilowatt hour consumption is divided by his maximum measured demand during the month, and the quotient exceeds 200, his demand charge is reduced in accordance with the amount by which his hours use exceeds 200.

This provision is put into the rate to encourage more continuous use of the demands imposed upon the system, or another way of putting it would be to say to encourage the

customers to take their consumption at lower maximum
—1,735—
demands.

The industrial power rate has a provision which specifies that after the application of the standard rate schedule and the coal factor and power factor adjustments and the load factor adjustment, if any is earned, the net bill shall not be less than 75/100 of a cent per kilowatt hour.

Several of our large customers earn an average rate of 75/100 of a cent per kilowatt hour.

3824

Q. That includes both the demand and the energy charge?

A. Yes, that is the total net bill after all adjustments and after discount.

Q. Have the companies in the Wisconsin-Michigan group, from time to time, acquired small public utility systems?

A. Yes. During the history of the three companies of the Wisconsin-Michigan group they have acquired an appreciable number of small utility systems.

Q. And what has been the effect upon the rates applicable to those communities after the acquisition by the companies in the Wisconsin-Michigan group? A. In every case of acquisition of a small electric utility system by one of the companies of the Wisconsin-Michigan group, the effect has been a reduction of the rates charged for electric service immediately upon acquisition.

3825

It has been the policy of the companies to immediately place into effect in the territory of such acquired systems,
—1,736—

the rates applicable to such territory on the system of the acquiring company and in every instance, the change has been

3826

Edward H. Schmidtman—By Respondents—Direct

in the direction of reducing the charge for electric service to the customers of the system acquired.

Mr. Hamilton: May this table be marked for identification as Respondents' Exhibit No. 38?

The Examiner: Yes.

(The table referred to was marked for identification as Respondents' Exhibit No. 38.)

3827 *By Mr. Hamilton:*

Q. Mr. Schmidtman, will you explain what Respondents' Exhibit No. 38 for identification purports to portray? A. Exhibit No. 38 is a tabulation listing the communities in which local distribution systems have been acquired by the three companies of the Wisconsin-Michigan group and showing the net bill for residential monthly consumption of 40 kilowatt hours immediately prior to acquisition, immediately after, and the net saving resulting from the change in rates.

Q. And the percentage of saving? A. And the percentage of that saving.

3828

Q. Has this table been prepared under your supervision?

A. Yes, it has.

Q. And the facts shown are taken from the records of the respective companies? A. They were.

—1,737—

Mr. Hamilton: I offer it in evidence as Respondents' Exhibit No. 38.

Miss Calkins: No objection, but I would like to ask the witness if each of the names in the right-hand

column represent separate towns or communities and separate systems?

The Witness: You mean the left-hand column, don't you?

Miss Calkins: Yes.

The Witness: The names represent communities and in some instances more than one community was covered by the same system acquired. That is, each name given in the list does not represent a separate system.

3830

In many instances one community does represent one system. In some instances more than one community was covered by the same system.

The Examiner: Are you through, Miss Calkins?

Miss Calkins: Yes, I said no objection to the admission of the exhibit.

The Examiner: The tabulation is now received in evidence under the number mentioned.

(The table referred to was received in evidence as Respondents' Exhibit No. 38.)

3831

By Mr. Hamilton:

Q. Do you care to comment on this exhibit, Mr. Schmidtman? A. Yes. There are a few comments that might be made.

—1,738—

The five communities listed under Section A of this tabulation, "Utilities acquired by Wisconsin Electric Power Company," were served by local electric utility systems which were acquired during the period from 1913 to 1930. These

3832

Edward H. Schmidtman—By Respondents—Direct

were all private utility systems except that at Port Washington, which, prior to acquisition by Wisconsin Electric Power Company, was operated by the City of Port Washington.

The communities listed in Section B of the exhibit were served by local utilities acquired by Wisconsin Gas & Electric Company during the period from 1916 to 1931.

The last one to be acquired by that company was that at West Bend.

3833

The communities listed under Section C of this exhibit were served by local utilities which were acquired by Wisconsin Michigan Power Company during the period from 1923 to 1929. Most of these acquisitions, as I have just pointed out, were made a number of years ago and numerous rate reductions have been made in these communities since the dates of their acquisition by the companies of the Wisconsin-Michigan group.

Such rate reductions are not reflected in this tabulation, however, inasmuch as the purpose of this exhibit was to show the effect on rates of the changes from the schedules in effect immediately prior to acquisition, to the schedules of the acquiring companies immediately after acquisition.

3834

Q. Expressed in terms of percentages, will you state very

—1,739—

briefly the range indicated by the exhibit of savings to customers? A. Yes. The savings to the customers in the communities served by the systems which were acquired by Wisconsin Electric Power Company ranged from 12 per cent. in Port Washington to 56 per cent. in the Village of Dousman.

In the case of Wisconsin Gas & Electric Company, the saving in the twenty-six systems acquired ranged from a mini-

Edward H. Schmidtman—By Respondents—Direct

3835

mum of 19 per cent. in West Bend to the maximum of 73 per cent. in the community of Bristol.

In the case of Wisconsin Michigan Power Company, which acquired systems in twelve communities, the savings ranged from 18 per cent. in the communities of Loretto, Michigan, Niagara, Wisconsin, and Alpha, Michigan, to a maximum of 51 per cent. in the communities of Powers and Spalding, Michigan.

In the case of Powers and Spalding, the communities were served by the same system prior to acquisition, but that was not true in the case of the three communities in which the 18 per cent. saving was made. They were all separate systems, although the rates in effect prior to acquisition happened to be the same.

3836

I should also add here that the monthly consumption of 40 kilowatt hours which was used in computing these bills was selected as a typical consumption for customers on those systems at that time.

—1,740—

The rates under which the net bills prior to acquisition, and the net bills immediately after acquisition, were computed, were filed rates.

3837

Q. What has been the record of the companies in the Wisconsin-Michigan group with respect to rate reductions?

A. The rates charged for electric service by the three companies of the Wisconsin-Michigan group have been reduced on a very impressive scale for a period of years. Since May 1, 1926, Wisconsin Michigan Power Company has made one or more reductions in its electric service rates in every year except 1930.

3838

Edward H. Schmidtman—By Respondents—Direct

The savings to customers resulting from those rate reductions of which there were fifty-eight, amounted to at least \$2,569,600.00 accumulated up to June 30, 1940.

Q. Now, will you explain the basis on which you arrived at the figure you have just given? A. Yes. I stated it as being at least that much because of the method that was used in computing the figure. At the time each rate reduction was made, a calculation was carried out to determine the amount of the reduction in revenue which would result from that rate change in terms of the number of customers taking service under the rate affected and the consumption of those customers.

3839

The saving computed on that basis for each rate change, as indicating the annual saving to the customers, has been multiplied by the period of time elapsed since the date of the

—1,741—

3840

change, and the total of those figures is the \$2,569,600.00. The reason this figure represents appreciably less than the actual saving realized is that it is built up of amounts based on the number of customers affected at the time the rate was changed, and the amount of energy consumed by those customers at that time.

Now, both of those elements have changed considerably since the time of the rate change, particularly in the case of changes that were made a number of years ago.

The number of customers on the schedules affected by these rate changes has increased and the consumption of the customers who were taking service at that time has increased, but this saving does not recognize those changes because the determination of their effect on the saving would be a very involved computation requiring considerable re-

search and we have felt that rather than to go to the labor of computing this change in number of customers by classes and the consumption of customers, and the effect of the various steps of the rate, that we are more conservative in stating the minimum figure.

Just how much the actual saving would exceed the figure I have given, I am not prepared to say, but a computation of this general type was made on another utility system some years ago and the indication was that the actual saving was several times that computed on the basis we have used here.

3842

—1,742—

Q. Have you comparable data for Wisconsin Gas & Electric Company? A. Yes, I have. Since 1921, through to the end of 1939, Wisconsin Gas & Electric Company has made one or more rate reductions, in every year.

The total number of reductions made during that period is eighty-four and the accumulated saving to the customers, based on the same method of calculation as that I have just described for Wisconsin Michigan Power Company, amounted to \$8,685,500.00.

3843

For Wisconsin Electric Power Company, the number of reductions made since May, 1921, is eighty-seven. One or more reductions have occurred in every year except 1923. The accumulated saving to the customers of that company, down to June 30, 1940, amounts to \$38,292,487.00.

Here, again, this figure is computed on the basis I have described and the actual saving, recognizing increased use and increased number of customers, would be substantially greater than this figure if we were able to compute it.

3844

Edward H. Schmidtman—By Respondents—Direct

Q. At what date have you computed the accumulated savings for Wisconsin Gas & Electric Company? A. To June 30, 1940.

Q. Have any of the companies in the Wisconsin-Michigan group had in effect a so-called free electricity plan? A. Yes. Wisconsin Electric Power Company, and Wisconsin Gas & Electric Company placed into effect what was called the

—1,743—

3845

free electricity plan in the year 1934, and Wisconsin Electric Power Company offered the plan again to its customers in 1935.

Q. Will you explain what that plan was? A. This plan was something quite new as a means of promoting the increased use of electricity by customers of a utility system. The plan consisted of an offer under which the customers, whose use normally declines in the summer and consists principally of lighting, were given permission to use an unlimited amount of electricity in the months of May and June of each of those years, with the understanding that their charge for service would be no higher than it was in March.

3846

Q. Of that same year? A. Of that same year. The purpose of this plan was three-fold. Firstly, it was intended to stimulate the greater use of electricity by our customers through giving them an opportunity to use the service more freely; that is, to develop a more liberal use of electricity, to develop higher consumption habits.

Second, the companies hoped to achieve a permanent increase in consumption from the additional appliances which the customers would naturally buy and use during the free electricity period; and

Edward H. Schmidtman—By Respondents—Direct

3847

Third, it was intended to avoid the usual seasonal decline in consumption of electricity at that time of year.

Now, it was possible to carry this plan out because of the

—1,744—

availability of surplus hydro-electric power from the system of the Wisconsin Michigan Power Company. The plan was offered to residential, rural, and commercial lighting customers, whose use, as I have stated, normally varies with the seasons.

Combined light and power customers of the commercial class, whose use was largely lighting, were also given the privilege of participating under the free electricity plan. This plan proved to be a very effective means of increasing the consumption of electricity by the customers of the companies.

3848

It resulted in a more extensive use of the service through longer hours of furnishing of light and use of appliances, and through the purchase and use of additional appliances which the customers did not have before the plan went into effect.

Statistics were kept on the operations of the plan in both the years 1934 and 1935, and those statistics show that in 1935, the acceptance of the plan as measured by the number of customers availing themselves of it, and the extent to which they made use of the free service, was considerably higher in the latter year.

3849

In 1934, a total of 62,186 customers, or 29 per cent. of the customers eligible to take free electricity, actually participated in the plan.

Now, those 62,000 were made up as follows: 53,304 were residential customers, representing 28 per cent. of the resi-

3850

Edward H. Schmidtman—By Respondents—Direct

dential customers of Wisconsin Electric Power Company; 1,616 of the rural customers participated, representing 53

—1,745—

per cent. of the rural customers; 7,266 commercial customers, representing 31 per cent. of the customers in their class, participated in the plan.

3851

In the same months of 1935, that is in the months of May and June, the participation was appreciably higher, including 71,590 residential customers, or 36 per cent. of the class; 1684 rural customers, who were 57 per cent. of the eligible rural customers; and 9,171 commercial customers constituting 39 per cent. of the eligible commercial customers; total number of customers participating in 1935 was 82,445, which were 37 per cent. of the total number of customers eligible to take the service.

3852

In 1935, the number of participating customers not only increased, but the participating customers made more extensive use of the free service than did those participating in 1934. In 1934, the average customer participating in the plan received 107 kilowatt hours of free electrical energy. In 1935, the average participating customer used 166 kilowatt hours of free energy.

In 1934, the participating customers used a total of 6,624,649 kilowatt hours of free electricity.

Had this electricity been billed at regular rates as an addition to the consumption the participating customers took in March, the revenue for that service would have amounted to nearly \$201,000.00.

—1,746—

Edward H. Schmidtman—By Respondents—Direct

3853

In May and June of 1935, the free consumption was more than twice as great as that in 1934, amounting to 13,685,582 kilowatt hours.

If this energy had been billed at regular rates, it would have cost the customers over \$371,000.00. The average free electricity taken by the participating customers in 1934, as I have stated, amounted to 107 kilowatt hours, and would have cost \$3.25 at the standard rates.

In 1935, the average participating customer received 166 kilowatt hours of free energy which would have cost him \$4.50 if he had been billed for that service at the regular rates.

3854

When I speak of 1935 in this respect, I mean the months of May and June. The use of free service in the months of May and June, 1934, constituted an average increase of 51 per cent. over the billed consumption in those months, while in May and June of 1935 the free service taken by the participating customers amounted to 90 per cent. of the consumption for which they were billed in those months.

In 1934, the free electricity plan was offered for only the two months of May and June. It was based upon the bills for service rendered in March because it took some time to get the plan under way and properly advertised so the customers of the companies offering it would know it was about and how they would go about taking advantage of it.

3855

It was necessary to base the charges under the free elec-

—1,747—

tricity plan on a month for which the bills had already been rendered in order to avoid a situation in which customers planning to avail themselves of the opportunity would reduce

3856

Edward H. Schmidtman—By Respondents—Direct

their consumption in the base month in order to establish a low basic charge.

For that reason, March was used. The month of April was occupied in developing the plan and presenting it to the customers, and in the months of May and June, it went into effect.

Q. Are these statistics, which you have given, applicable only to the experience of the Wisconsin Electric Power Company? A. Yes, they are.

3857

Q. They do not include the experience of the Wisconsin Gas & Electric Company? A. No.

Q. And did the plan accomplish the purposes which it was intended to accomplish? A. Yes, it did. It was so successful in 1934 that Wisconsin Electric Power Company decided to offer it again in 1935.

After the months of May and June in 1935 had passed, the plan was still working so successfully as a means of changing the habits of customers with respect to use of electricity, and, as I will point out later, as a means of increasing the sale of major appliances, that the management of Wisconsin Electric Power Company decided to extend it on through the summer.

3858

—1,748—

That was done and the plan was extended from June to October in 1935.

The usual seasonal decline in consumption of lighting customers which occurs during the summer months had some effect on the extent of participation in the plan during the summer months and the number of participating customers dropped off somewhat from the number that had participated in May and June.

Edward H. Schmidtman—By Respondents—Direct

3859

The average for the six-months' period for 1935 indicates that 58,520 residential customers, or 30 per cent. of their class participated; 1,244 rural customers, or 42 per cent. of their class participated; and 9,148 commercial customers participated, representing 39 per cent. of their class.

The total number of participating customers in the average month for the six-months' period, was 68,912 and constituted 31 per cent. of the total customers eligible to participate under the free electricity plan.

3860

During the six-months' period, the customers participating in the free electricity plan in 1935, used a total of 32,636,346 kilowatt hours of free electricity.

Q. This is total for 1935? A. This is total for 1935, yes, the six-months' period. This amount of free electricity was equal to 79 per cent. of the electricity for which those participating customers were billed in that period.

—1,749—

The average residential consumer participating in the plan used free electricity amounting to 127 per cent. of the energy for which he was charged. The average rural customer used free electricity amounting to 159 per cent. of his billed consumption, and the average commercial customer used free electricity equal to 36 per cent. of the energy for which he was billed.

3861

If these amounts of free electricity had been billed to the customers at regular rates, the total revenue for the six months in 1935, from the service which was rendered free, would have been \$850,427.00, which would be at an average of \$12.34 per participating customer.

3862

Edward H. Schmidtman—By Respondents—Direct

Q. What effect, if any, has the operation of the plan had on the consumption of electricity in periods subsequent to the operation of the plan? A. It has had a material effect in increasing the consumption of the customers in those classes to which the free service was available.

During the period in which the free electricity plan was effective, a marked increase in the sales of electric ranges and electric water heaters was observed.

3863

During the months of April, May and June of 1933, which was the year prior to the offering of the free electricity plan, Wisconsin Electric Power Company sold 139—no, not Wisconsin Electric Power Company—there were sold in the territory of the Wisconsin Electric Power Company, 139 electric ranges.

During the months of April, May and June of 1934, when the free electricity plan was introduced, the range sales totaled 349, and during the same months of 1935, 544 ranges were sold.

3864

In 1933, during those months of April, May and June, 57 water heaters were sold. In 1934, that number was increased to 206. In 1935, it dropped off slightly to 186, but was still substantially above the figure prior to the offering of the free electricity plan.

In the period from April to October, inclusive, in 1934, that is, covering the entire period of the plan in the year 1935—in 1934, there were sold 665 ranges and in 1935, 944.

In 1934, there were sold 369 water heaters, and in 1935, this was increased to 491.

We feel that the free electricity plan was a major factor in accomplishing this increased sale of these major electrical

Edward H. Schmidtman—By Respondents—Direct

3865

appliances, and the operation of the plan can be seen in that while these appliances were sold to customers who were taking advantage of the free electricity plan, they are continued in operation down through to the present time and will continue to be an effective factor in holding up the sale of electricity to these classes of service.

The consumption of the customers was also materially increased during the period of the free electricity plan. In 1933, the average consumption per residential consumer of Wisconsin Electric Power Company was 637 kilowatt hours. In 1934, that had increased to 707. In 1935, that had further increased to 816 kilowatt hours.

—1,751—

Q. Is that entirely revenue consumption or does it include kilowatt hours taken under the free electricity plan? A. It includes kilowatt hours taken under the free electricity plan. It represents total sales to customers of that class. In the case of rural customers, a similar increase in consumption took place during the free electricity plan.

3866

In 1933, the average consumption per rural customer was 1,146 kilowatt hours. In 1934, that had increased to 1,311 kilowatt hours; and in 1935, it had further increased to 1,671 kilowatt hours.

Q. Now, without going into detail, would you indicate very briefly whether the net effect of the plan is an increase in revenues? A. Yes, the net effect of the plan was an increase in revenues to the company, in an immediate sense. That is, during the period in which the plan was effective, it resulted in increased net revenues to the company. It has been estimated that the increased revenues received by Wis-

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3868

Edward H. Schmidtman—By Respondents—Direct

consin Electric Power Company during the period of free electricity in 1934, exceeded the increased costs of conducting the plan by \$34,000.00 and that during the six months in

—1,752—

which the plan was effective in 1935, the revenue exceeded the increased costs by \$53,000.

3869

Now, these are only the immediate effects of the plan and are in no sense a complete measure of the over-all results achieved by offering this plan to our customers because, as I have pointed out, the habits of the customers have been changed. They are acquiring more appliances and both of those factors continue to result in higher consumption than was realized in the period prior to the offering of this plan.

Q. When did the plan end? A. The free electricity plan was discontinued in October, 1935.

Q. And was another plan substituted for it? A. Yes, it was.

3870

Q. What is that plan? A. At that time, at the beginning of November, 1935, the Wisconsin Electric Power Company offered a promotional plan which was a substitute for the free electricity plan.

This new promotional plan is known as the ten-for-one plan.

Q. That plan is still in operation? A. Yes, it is still in operation, today.

Q. Will you explain how it operates? A. The ten-for-one plan permits eligible customers to double their consumption of electricity in any calendar month, or rather any service

—1,753—

month, of a given year as compared with their consumption in that same month the previous year for an increase of

1

Edward H. Schmidtman—By Respondents—Direct

3871

not more than 10 per cent. in the electric service bill.

To illustrate, if a customer used 100 kilowatt hours in the month of August, 1939, and paid for it at the standard rates, he would be permitted under this plan to use up to 200 kilowatt hours in August of 1940 at an increase of not more than 10 per cent. over the bill he paid for his service in August of 1939.

If a customer increases his consumption to more than twice the consumption of the corresponding month a year ago, he is billed for that excess over the 100 per cent increase at a net rate of 2 cents per kilowatt hour.

3872

Another provision of the plan is that under no circumstances shall the charge for electric service to a customer under the ten-for-1 plan exceed what the charge would be at the regular rates presently in effect, nor shall it be any less than one cent net per kilowatt hour.

The ten-for-one plan is offered to residential, rural and commercial lighting, large users secondary, and municipal secondary customers.

It has received remarkably wide acceptance on the part of the customers and is still in effect.

3873

Mr. Hamilton: May this table be marked for identification as Respondents' Exhibit No. 39?

The Examiner: Yes.

—1,754—

(The table referred to was marked for identification as Respondents' Exhibit No. 39.)

By Mr. Hamilton:

Q. Mr. Schmidtman, will you explain what Respondents' Exhibit No. 39 for identification purports to portray? A.

3874

Edward H. Schmidtman—By Respondents—Direct

Respondents' Exhibit 39 is a tabulation showing the amounts saved by the customers of Wisconsin Electric Power Company through the operation of the ten-for-one plan during the years 1935 to June 30, 1940.

Q. And for what period in 1935? A. For the period in 1935 during which the plan was effective, namely November 1, to December 31.

3875

Q. Will you explain the basis on which savings are shown? A. The savings shown in Exhibit 39 were computed from the bills rendered to the customers. Under the operation of this plan, a participating customer receives an electric service bill which shows his meter reading, and the consumption, and then the bill for that consumption, at regular rates, is shown.

In an adjoining column, the bill to be paid by the customer under the ten-for-one plan is shown.

By tabulating the two amounts shown by the bills of the participating customers, we have computed the differences between those figures for all customers availing themselves

3876

—1,755—
of this plan in respective years shown in Exhibit 39.

The figures indicated are the totals derived in that manner.

Q. The exhibit purports to show, does it not, classifications such as residential, rural, commercial, large users and municipal secondary? A. Yes, it does, with the savings segregated according to those classes of service.

Q. And has this table been prepared under your supervision? A. Yes, it has.

Edward H. Schmidtman—By Respondents—Direct

3877

Q. And the facts shown taken from the record of the Wisconsin Electric Power? A. They were.

Mr. Hamilton: I offer the table in evidence as Respondents' Exhibit No. 39.

Miss Calkins: No objection.

The Examiner: It is so admitted.

(The table referred to was received in evidence as Respondents' Exhibit No. 39.)

3878

By Mr. Hamilton:

Q. In order to clarify the exhibit, Mr. Schmidtman, would you state the total savings for the period indicated to all classes of customers shown on the exhibit? A. The total —1,756— savings experienced by customers participating under the ten-for-one plan, from the date of its beginning up to June 30, 1940, was \$4,687,214.62.

Q. And the total savings to residential customers? A. Residential customers realized a total saving of \$2,934,641.30.

Q. I note from the table that for the six months ended June 30, 1940, your total amount of savings shown indicates a slight increase in rate of saving over the year 1939. Is that right? A. Did you say a decrease?

3879

Q. An increase. A. Yes, the saving during the first half of 1940 exceeds half the saving for the year 1939.

The ten-for-one plan continues to be extremely popular with our customers, and while it is not to be assumed that the operating results for the first half of the year should be exactly half of the results for the entire year, the continued

3880

Edward H. Schmidtman—By Respondents—Direct

popularity of the plan leads us to believe that the savings for 1940 will be of the same order of magnitude as those shown for the preceding three years.

Q. For what period is the plan intended to remain in operation? A. The ten-for-one plan was originally introduced on an experimental basis. It was necessary before offering it to our customers, to submit it to the Public Service Com-

—1,757—

mission of Wisconsin for approval.

3881

After the Commission had become convinced that it was a sound promotional plan, authority to introduce it on an experimental basis was given. It has been extended from time to time by approximately six-months periods, and the latest extension by authority of the Public Service Commission covered a period up to July, 1941.

Whether it will be extended beyond that time no one can say. It will have to be again submitted to the Public Service Commission for analysis by their rate and research division, and if the Commission approves, authority will be granted to extend it farther into the future.

3882

The reason that the plan was introduced experimentally is that it was new and we had no experience on what might be expected from it and so it was approached on that basis. After its promotional nature had been fully demonstrated, however, the Public Service Commission was less hesitant about approving it, and, as I say, it has now been approved to remain in effect up to July of next year.

There are some rather interesting aspects of this plan, one of which can best be illustrated by an example. If a customer consumed 100 kilowatt hours in any month last

Edward H. Schmidtman—By Respondents—Direct

3883

year and paid for that consumption at the regular rates for residential electric service, his bill would have amounted to \$3.35 net. —1,758—

Now, if that customer had availed himself of the ten-for-one plan during the corresponding month of this year, he would be permitted to use 200 kilowatt hours for a charge not in excess of 10 per cent. more than \$3.35, or a charge of \$3.69. He would receive the additional 100 kilowatt hours for an additional charge of 34 cents, or he would pay 34/100 of a cent per kilowatt hour for his increased service.

3884

Now, it isn't to be expected that a customer will continue doubling his consumption year after year. The economic status of a residential customer places some limitation, some saturation point, if you please, on the amount of electricity that a person in his circumstances can use, even though it comes to him at an extremely low rate, so if the customer we are taking as an example should not continue to increase his consumption above the 200 kilowatt hour point, but should continue using 200 kilowatt hours in the corresponding month, year after year, at the end of five years his bill, which would have been increasing at the rate of 10 per cent. each year under the ten-for-one plan, would be within two cents of exactly what his bill would be for 200 kilowatt hours at the regular rate.

3885

During the five-year period, the customer will have had the use of 200 kilowatt hours each month for amounts ranging from \$3.35, which is the standard bill for 100 kilowatt hours, up to \$5.35, which is just two cents less than the standard bill for 200 kilowatt hours per month.

—1,759—

3886

Edward H. Schmidtman—By Respondents—Direct

During that period, for that same calendar month each year, accumulatively, he would have realized a saving of \$4.28. He would have developed consumption habits resulting in the consumption of 200 kilowatt hours per month, and would have received service during that period at premium rates.

Q. Have the operations of the promotional rate plans resulted in an increased use of electrical energy by customers of the company? A. They have. They have resulted in substantially increased use on the part of our residential customers. The fact that this is true is shown by the shifting of our residential customers from the low consumption brackets to the high consumption brackets.

3887

In 1937, it was decided that analyses should be made to ascertain whether the promotional rate plans were resulting in increased consumption habits on the part of residential customers. As a result of that decision, a complete consumer analysis of the residential customers of the Wisconsin Electric Power Company was made and the customers were classified according to the consumption brackets in which they fell.

3888

The first of these analyses was made in April of 1937, when it was found that 50 per cent. of the residential consumers of Wisconsin Electric Power Company used 50 kilowatt hours or less per month; 34 per cent. used between 52 kilowatt hours and 100 kilowatt hours per month; 9 per cent. consumed from 102 kilowatt hours to 150 kilowatt hours per month; 3 per cent. consumed from 152 kilowatt hours to 200 kilowatt hours per month; and 4 per cent. consumed more than 200 kilowatt hours per month.

These consumptions are all per customer. These consumer analyses were repeated, being made in October and again in April and October of each succeeding year.

The latest one available was that made in April of 1940. At that time, it was found that the customers consuming 50 kilowatt hours or less per month per customer had dropped from 50 per cent. to 34 per cent., and those consuming from 52 to 100 kilowatt hours per month had increased from 34 to 40 per cent.; those consuming from 102 to 150 kilowatt hours per month had increased from 9 to 15 per cent.; those consuming from 152 to 200 kilowatt hours per month had increased from 3 to 5 per cent.; and those consuming more than 200 kilowatt hours per month had increased from 4 to 6 per cent. of the residential consumers of the company.

3890

This shifting of customers from the low-consumption brackets to the higher consumption brackets is regarded as an extremely important accomplishment because customers who use very small amounts of electricity don't make the use of it which really benefits them. They use it only for necessity purposes and get very little comfort or convenience from it, and likewise, customers in the minimum consumption

3891

—1,761—

brackets do not actually pay all the costs of service.

So from the viewpoint of both the customers and the company, we feel that the migration, if you please, of customers from the lower consumption groups to the higher consumption groups is an achievement of some importance.

Mr. Hamilton: May this chart be marked for identification as Respondents' Exhibit No. 40?

3892

Edward H. Schmidtman—By Respondents—Direct

(The chart referred to was marked for identification as Respondents' Exhibit No. 40.)

By Mr. Hamilton:

Q. Mr. Schmidtman, will you explain what Respondents' Exhibit No. 40 for identification portrays? A. Respondents' Exhibit 40 is a blueprint chart showing in graphic form the trend of average annual consumption of residence electricity on the system of Wisconsin Electric Power Company and in the United States as a whole.

3893

Q. Will you indicate the period shown? A. The period covered by the curve for Wisconsin Electric Power Company extends from the year 1910 to the year 1939.

The period covered by data for the United States begins with the year 1913 and carries through to 1939.

Q. Has this chart been prepared under your supervision? A. Yes, it has.

—1,762—

3894

Q. And the facts shown as to Wisconsin Electric Power Company taken from the records of that company? A. They were, and the data for the average of the United States were taken from the published statistical reports of the Edison Electric Institute.

Mr. Hamilton: I offer the chart in evidence as Respondents' Exhibit No. 40.

Miss Calkins: No objection.

The Examiner: It is admitted in evidence under that number.

(The chart referred to was received in evidence as Respondents' Exhibit No. 40.)

Edward H. Schmidtman—By Respondents—Direct

3895

By Mr. Hamilton:

Q. Will you state from Exhibit No. 40, the range shown by the two curves? A. The curve for Wisconsin Electric Power Company shows that in 1910 the average annual consumption of electricity per residential customer was about 210 kilowatt hours, and that in 1939 it had increased to 1,060 kilowatt hours.

The curve showing the average for the United States indicates that in 1913 the average annual consumption per residential consumer was about 260 kilowatt hours per customer, and in 1939 it was 890 kilowatt hours per customer.

3896

Q. And since what year has the average consumption of Wisconsin Electric Power Company, residential consumers, exceeded the average consumption of the United States? A.

—1,763—

Beginning in the year 1915, the average consumption per residential customer of the Wisconsin Electric Power Company has been above the average for United States.

Q. Continuously? A. Continuously. Prior to 1915, the average for the United States was above that of the Wisconsin Electric Power Company for the two years shown. I do not have data for the earlier years and so I don't know whether that curve would remain above that of Wisconsin Electric Power Company for the years prior to that or not.

3897

Q. Exhibit No. 40 does not present data as to the operations of the Wisconsin Michigan Power Company and the Wisconsin Gas & Electric Company. Can you give comparable data for those last two named companies? A. Yes. As I explained before, in connection with the average price for residential electricity of Wisconsin Gas & Electric Com-

3898

Edward H. Schmidtman—By Respondents—Direct

pany and Wisconsin Michigan Power Company, the residential classification of service has not been segregated until recently, and so we could not plot the data for those companies over the periods shown in Exhibit 40.

For the year 1939, however, the average consumption per residential consumer on the system of Wisconsin Gas & Electric Company was 904 kilowatt hours. For Wisconsin Michigan Power Company, the average residential consumption in 1939 was 932 kilowatt hours.

3899

—1,764—

Both of these figures exceed the average for the United States in 1939.

Q. Have the companies in the Wisconsin-Michigan group carried on active programs directed toward rural electrification? A. Yes, they have. The activity directed toward the sale of electricity to farmers began as far back as 1916 in the territory of our three companies.

3900

On January 1 of that year, Wisconsin Electric Power Company filed its first rural electric service rate schedule with the then Wisconsin Railroad Commission. In filing its rate for that class of service at that time, the company was far ahead of most electric utility systems in the country, and likewise far ahead of the growing national prominence that has attached itself to rural electrification in recent years.

At that time, the sale of electricity to farms was an entirely new field of electric service. Because of that fact, it was necessary to approach the class of service on a somewhat experimental basis.

In laying out its program for electrifying its rural territory, the company has as its object, the complete electri-

Edward H. Schmidtman—By Respondents—Direct

3901

fication of its territory rather than the realization of immediate earnings on the service extended at the time. After a few years of rather careful probing of the field, it was

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found that rural service had real possibilities as a means of selling electricity, and the Wisconsin Electric Power Company organized the beginning of its present rural sales division in 1925.

The division was organized of men familiar with fine problems and there were developed in that the plans for financing farmers' installation and a plan under which line extensions, would be made to farmers applying for service and a rather active campaign was instituted.

3902

The Wisconsin Gas and Electric Co. and Wisconsin Michigan Power have always been in the rural electrification field a number of years, although they had not entered it at the time the Wisconsin Electric Power Co. filed its initial rate schedule in 1916.

They have since carried a law with their rural electrification promotion campaign and have accomplished a high degree electrification of their rural territories.

3903

Q. What are the policies of the companies in the Wisconsin-Michigan group with respect to line extensions in rural territory? A. All three companies of the Wisconsin-Michigan group have at present the same rural line extension policy. The original rules filed by Wisconsin Electric Power Co. provided that the company would expend in constructing new line extensions required in servicing customers an amount not in excess of the estimated revenue for the first

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3904

Edward H. Schmidtman—By Respondents—Direct

two years of operation of the proposed extension. Any excess in the cost of the line extension over the estimated two years revenue was paid by the customers applying for the service.

In 1924, this rule was amended to provide for the expenditure of three years' estimated revenue, with the customers contributing the excess of cost over that amount.

3905

The rule also provided that if additional customers were connected to the line within the first three-year period, that one-half of the revenue received from those customers would be refunded to the farmers making the original contribution if it amounted to more than one-third of the cost of connecting such additional customers.

If the customers chose to guarantee a minimum revenue equal to not less than one-third of the cost of the line extension, then the company did not require them to make any contribution in aid of that construction.

In 1924, the rules also provided for the financing of farmers' wiring in their buildings, and the financing of their equipment on a monthly instalment plan.

3906

In 1935, the rules were further liberalized in an experimental area in the rural territory of Wisconsin Electric Power Company. They were changed to provide for a contract for three years' service at a minimum charge of \$4.00 per month. Under such a contract, the Wisconsin Electric Power Company agreed to install a rural line extension for

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any length provided there was not a distance of more than three-quarters of a mile between any two customers on the extension.

Edward H. Schmidtman—By Respondents—Direct

3907

If such customers exceeded three-quarters of a mile, the rule provided that the company might, if it chose, refuse to extend the service.

Now, these rules were filed and approved by the Public Service Commission of Wisconsin. The rules adopted in 1935 by the Wisconsin Electric Power Company are still in effect and have been extended to cover the rural service of both Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company.

Q. Are the rural rates of the three companies promotional in character? A. Yes, they are. They have been made that way in keeping with the promotional rate policies of the companies in order to encourage more extensive use of the service by our farm customers.

3908

The rates charged for rural electric service are the same on the system of all three companies of the group. They provide for a minimum monthly charge of \$4.00 net which is the \$4.00 charge I spoke of in connection with the line extension policy.

This minimum charge carries with it the right of the customer to consume eighty kilowatt hours of energy, resulting in a net charge for that first step of eighty kilowatt hours of 5 cents per kilowatt hour.

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The next 420 kilowatt hours per month are billed at 2½ cents per kilowatt hour, and the excess over 500 kilowatt hours per month is billed at 2 cents per kilowatt hour.

The rate also provides for a charge based on the motor installation of the farmers, specifying that for installations of more than 7½ horsepower, the minimum bill of \$4.00 is increased by 50 cents a month per horsepower.

3910

Edward H. Schmidtman—By Respondents—Direct

Q. Have the companies conducted experiments toward increased rural consumption? A. Yes, they have. A rural electrification project was participated in by Wisconsin Electric Power Company with the cooperation of the Wisconsin Utilities Association, and the University of Wisconsin, in 1927.

The purpose of this project was to develop new and beneficial uses of electricity on the farm.

3911

In carrying out the project, two test farms in the territory of Wisconsin Electric Power Company were established and were completely wired and equipped with various types of electrical farm equipment.

The tests were conducted under the direction of the university for the purpose of determining the efficiency of the various items of equipment then available for the use of farmers and the cost of operating such equipment and the value of the results of such use.

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3912

Two general classes of equipment were tested, the first one consisting of household equipment, including refrigerators, water heaters, laundry and cleaning equipment, water systems, and sanitary equipment requiring running water pumped with electric pumps.

The second class consisted of general farm equipment including milking machines, cream separators, feed grinders, incubators, silage cutters, elevators, wood saws, and other general machines for the application of electricity to the farm.

These experiments demonstrated the various ways in which such equipment could be applied to the needs of farmers and many of the items of equipment tested on those

test farms in 1927 are now considered standard equipment among the farmers served in the territories of our companies.

In 1938 another test having to do with rural electrification was conducted by the rural sales division of Wisconsin Electric Power Company. This test consisted of a load survey and metering test on a certain rural distribution line in the company's territory.

The test covered the years '37 and '38, and was conducted on a line eighteen miles long serving fifty-six farms. From those figures, it is evident that the density of customers in that particular area was not particularly high.

3914

The outstanding fact discovered as a result of these tests, was that during the period of tests the connected load served

—1,770—

by the line, that is the capacity of the equipment connected to the line, increased 24 per cent.. The consumption of electricity on the line increased 32 per cent., while the maximum demand imposed on the line increased by less than 6 per cent.

These results indicate the diversity of demand which can exist and which in this case did exist, naturally, between the various power consuming devices used on farms, and shows the possibility of building the rural load to profitable levels without making excessive investment in transmission and distribution facilities.

3915

The companies have also carried out extensive tests on the use of electricity for heating the soil in seed beds, and for ultra-violet irradiation of poultry and cattle. Five soil-heating test installations were made to determine the efficiency of equipment available to the market for that use, and the results of these tests indicated that certain brands of such equipment had very practical value to farms and

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Edward H. Schmidtman—By Respondents—Direct

green houses and others who were interested in getting an ~~early~~ starting of seedlings.

With respect to ultra-violet irradiation of poultry and cattle, Wisconsin Electric Power Company actually pioneered that application of electricity to farm production.

In Wisconsin, the summers are shorter than in other parts of the country and a very large part of the summers are cloudy so that there is inadequate sunshine to give the animals as much of the sunshine vitamin as they need.

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Test flocks of chickens were subjected to ultra-violet irradiation and after careful test, it was found that the average increase in number and weight of eggs laid ran close to 20 per cent. for the flocks which received irradiation in comparison with those which did not.

Ultra-violet irradiation is also valuable for use on herds of cattle in that it improves the quality of the milk and reduces the bacterial count in the milk. It also reduces the susceptibility of the cattle to various diseases and has resulted in improved health and growth of calves.

3918

In connection with the application of ultra-violet irradiation on farms, Wisconsin Electric Power Company employed a veterinarian in 1935 and still has him in its employ. To our knowledge it was the first electric utility in the country to employ a veterinarian full time to serve as adviser to farm customers of the company.

This doctor is skilled in poultry and livestock ailments and he assists farmers in the selection, installation and use of ultra-violet equipment. Through his work, the company feels it has received considerable benefit in the way of in-

Edward H. Schmidtman—By Respondents—Direct

3919

creased revenue from the customers and increased goodwill among the farmers that we serve.

We now have over 600 installations of ultra-violet or sun lamps in the company's territory.

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Q. This is on farms, is it? A. This is on farms, yes. They are using more than a thousand lamps.

Q. Are the results of the experiments conducted by Wisconsin Electric Power Company made available to the Wisconsin Gas & Electric Company, and Wisconsin Michigan Power Company? A. Yes, they are. Those results are made available to the other companies and where the data involved are applicable to the use of those companies, they actually employ the results of those tests in serving their own customers.

3920

Q. Do Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company have the same facilities for conducting these experiments? A. No, they do not. These experiments are conducted very largely on the system of the Wisconsin Electric Power Company because the company has led the way in rural electrification in the group, and for that reason the results of these tests and the knowledge that is gained are made available to the other companies so they won't have to duplicate the effort and spend money doing the same thing that has been done by Wisconsin Electric Power Company.

3921

Q. Has the effect of this program been the increased use of electricity on the farm? A. Yes, it has. The consumption of electricity by our farm customers has grown appre-

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3922

Edward H. Schmidtman—By Respondents—Direct

ciably and we feel it is largely because of the liberal line extension policy, the promotional rates and the general promotional activity carried on by the companies among their farm customers.

Q. Does Wisconsin Electric Power Company conduct programs designed to increase the use of running water on farms? A. Yes, it does. Each year Wisconsin Electric Power Company carries out a program intended to bring to the attention of our farm customers the application of electricity to at least one specific use on the farm.

3923

The theme of this year's rural sales activity is "Running Water on the Farm". The application to electric service is through the medium of an electric pump delivering water for a pressure system. It has been found, again by means of extensive tests, that hogs will weigh more, cows will give up to 10 per cent. more milk, and chickens will lay more and larger eggs if they have all the water they want when they want it.

The first step in the running water promotional program of the company is the showing in farm homes and at various gatherings of a sound-slide film entitled "Running Water on the Farm."

3924

This film is presented by a representative of the company who does not attempt to sell any equipment at all. She simply gives the film and the lecture connected with it as a means of arousing interest among the farm population in running water.

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The selling of the equipment and the installation of the water systems are done entirely by dealers in the territory who are in those lines of business.

Edward H. Schmidtman—By Respondents—Direct

3925

The company does finance the installment accounts, however, for the farmers' installations of wiring and installation of water systems, including the motor, and the pump and the piping.

Last year, Wisconsin Electric Power Company handled accounts amounting to more than \$10,000.00.

Q. Those are single accounts, are they? That is not an aggregate figure, is it? A. That is an aggregate figure. The total amount of all accounts handled was over \$10,000.00, covering electrical water systems installed in the rural territory.

3926

In continuing its running water theme for this year, the Wisconsin Electric Power Company concentrated on that one aspect of rural electrification in its exhibit at the Wisconsin State Fair in Milwaukee.

The exhibit showed various appliances using running water and it was visited by hundreds of people from all over the state and some from outside the state.

Q. Now, have you data as to the number of farms served in the territories of the three companies? A. The three companies, through their rural electrification policies, have accomplished a high degree of electrification of their rural territories.

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In the rural territory served by Wisconsin Electric Power Company, there are located 3,996 farms.

Q. Will you state the test which is the basis for the definition of a farm used in your testimony? A. We define a farm as an establishment from which the principal revenue is received from agricultural pursuits. There are many farms in our territory which have more than one family.

3928

Edward H. Schmidtman—By Respondents—Direct

In such cases, the family which operates the farm as its principal means of income is classified as the farm home, or as the farm family, and the other family or the other residence is considered simply a residence, and if it takes electric service it receives that service at the standard residential rate.

The rural rate is extended only to the operation of the farm, itself, and to the family which operates that farm.

3929

Now, as I said, there are 3,996 farms in the rural territory served by Wisconsin Electric Power Company. At the end of June, 1940, 3,634 of these farms were taking electric service from Wisconsin Electric Power Company. The number taking service constituted nearly 91 per cent. of the total farms in the territory of the company.

At the same time service was available to 3,840 farms, or slightly over 96 per cent. of the total farms in the territory. Wisconsin Electric Power Company operates 1,090 miles of rural distribution line which averages 3.6 customers per
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mile.

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In the territory of Wisconsin Gas & Electric Company, there are 17,818 farms. Of these, 13,550, or slightly over 76 per cent., are now being served by Wisconsin Gas & Electric Company.

Service is available to a total of 16,690 of these farms or nearly 94 per cent. of the total number in the territory. Wisconsin Gas & Electric Company operates 4,279 miles of rural distribution line, on which the average customer density is 3.2 per mile.

There are 9,571 farms located in the rural territory of Wisconsin Michigan Power Company, in both Wisconsin and

Edward H. Schmidtman—By Respondents—Direct

3931

Michigan. On June 30, 1940, that company was serving 6,579 of those farms, which represents 68.6 per cent. of the total farms in the territory.

At that time service was available to 8,087 farms or 84½ per cent. of all farms in the territory. Wisconsin Michigan Power Company operates 1,897 miles of rural distribution line in Wisconsin and 572 miles of such line in Michigan and has an average rural customer density of 2.8 customers per mile in Wisconsin, 2.3 per mile in Michigan, or an average of 2.6 in all territory served.

3932

Now, by comparison with the average degree of rural electrification in the State of Wisconsin as a whole, those companies range high. According to data published by the Edison Electric Institute, 42.1 per cent. of the farms in Wis-

—1,777—

consin were receiving electric service at the end of 1939.

All three of the companies of the Wisconsin-Michigan group are substantially above that average, Wisconsin Electric Power Company having an electrification of more than twice the percentage indicated for the state as a whole.

Q. Have you data as to the consumption, average consumption, by rural customers in the territory? A. The average consumption of all rural electric customers of the three companies of the Wisconsin-Michigan group, was 1,367 kilowatt hours in 1939.

3933

According to Edison Electric Institute data, the average consumption for rural customers east of the one-hundredth meridian, which generally divides the portion of the United States in which irrigation is practiced, from that in which little or no irrigation is practiced, was 1,127 kilowatt hours per customer. The average for the three companies of the

3934

Edward H. Schmidtman—By Respondents—Direct

Wisconsin-Michigan group exceeds the average for that portion of the United States east of the one-hundredth meridian by 21 per cent.

The average cost of service to customers of the Wisconsin-Michigan group was 4.1 cents per kilowatt hour which was 7 per cent. below the average cost of service of 4.41 cents per kilowatt hour in that portion of the United States east of the one-hundredth meridian.

3935

In 1939, Wisconsin Electric Power Company's rural customers consumed an average of 2,229 kilowatt hours per customer, and for that service they paid an average price of 3.02

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cents per kilowatt hour. This average consumption is 87 per cent. above the average for the non-irrigated portion of the United States, and the average price for service in the non-irrigated section of the United States is 36 per cent. above the average price charged the rural customers of Wisconsin Electric Power Company.

3936

Q. When you refer to the territory of the United States east of the one-hundredth meridian, you have referred, have you not, to the territory in which little or no irrigation is practiced? A. Yes, that is what I meant.

The Examiner: We have come through to this hour of 1:30 without substantial interruption and as this room is to be used this afternoon by a hearing before the Commissioners, we will recess until tomorrow morning at 10:00 o'clock.

(Whereupon, at 1:35 o'clock p.m., the hearing was adjourned until 10:00 o'clock a. m., Tuesday, September 24, 1940.)

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BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

3938

Hearing Room 609,
Securities and Exchange Commis-
sion Building,
Washington, D. C.,
Tuesday, September 24, 1940.

Met, pursuant to adjournment, at 10:00 o'clock a. m.Before: W. W. SWIFT, *Trial Examiner.*

3939

Appearances:

S. PEARCE BROWNING, JR., and CHARLES S. HAMILTON, JR.,
of Sullivan & Cromwell, 48 Wall Street, New York City,
Attorneys for the Respondents.

RALPH C. BINFORD, and

MISS E. H. CALKINS, Attorneys for the Securities and Ex-
change Commission.

3940

Edward H. Schmidtman - By Respondents—Direct

PROCEEDINGS

The Examiner: The hearing will be resumed.

Whereupon, EDWARD H. SCHMIDTMAN resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton (Continued):

3941

Q. Mr. Schmidtman, are Wisconsin Electric Power Company, Wisconsin Gas & Electric Company, and the Wisconsin Michigan Company all subject to the regulation of the Public Service Commission of Wisconsin? A. Yes, they are.

Q. And in addition, is Milwaukee Electric Railway and Transport Company, the transportation subsidiary of Wisconsin Electric Power Company, also subject to the jurisdiction of that Commission? A. It is.

Q. And in addition, is Wisconsin Michigan Power Company subject to the jurisdiction of the Michigan Public Utilities Commission? A. It is with respect to its operations in the State of Michigan.

3942

Q. A previous witness has testified as to what the Wisconsin Commission does with respect to regulation of public utilities and has indicated its powers in that respect. Would

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you now state what the companies, themselves, do pursuant to that regulation? A. With respect to the companies' operations, the companies of the Wisconsin group do a number of things in connection with the regulation to which they are subject.

In the establishment of rate schedules for all classes of service, the companies file with the Public Service Commission of Wisconsin and in the case of the Wisconsin Michigan

Edward H. Schmidtman—By Respondents—Direct

3943

Power Company rates for service in the State of Michigan are also filed.

These rates must be submitted for approval of the regulatory bodies and that approval obtained before the rates can be made effective.

Q. And they are so submitted? A. And they are submitted and such approval is obtained.

Wisconsin Electric Power Company, now, has in effect thirty-nine electric service rate schedules and forty-five special agreements covering special contracts with other electric utilities and with certain special customers and with municipalities for street lighting service. All of these rate schedules and special agreements have been submitted to the Public Service Commission of Wisconsin and the approval of that body has been obtained.

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Wisconsin Gas & Electric Company has twenty-four electric service rate schedules and seven gas rate schedules, as well as a total of seventy-six special service agreements and

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street lighting agreements.

These have also all been submitted to and approved by the Public Service Commission of Wisconsin.

3945

Wisconsin Michigan Power Company has nineteen electric service rates and four gas service rates in Wisconsin, as well as forty-nine special agreements and street lighting agreements. These have been submitted to the Public Service Commission of Wisconsin and approved by that body.

Wisconsin Michigan Power Company also has fourteen electric service rates in Michigan and forty-four special agreements and street lighting agreements.

3946

Edward H. Schmidtman—By Respondents—Direct

These rate schedules and agreements have all been approved by the Michigan Public Utilities Commission.

I testified yesterday as to the number of rate reductions that have been made by the companies of the Wisconsin-Michigan group in very recent years, amounting to a total of 229 electric service rate reductions.

3947

Q. In the case of the three companies? A. In the case of the three companies, yes. These reductions were all approved by the regulatory bodies under whose jurisdiction they come before being made effective. The rendering of service by the three companies of the Wisconsin-Michigan group is also done under rules which are filed with the regulatory bodies and approved by those bodies before being made effective.

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At the present time—

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Q. (Interposing) Now, in order to clarify your statement, I wish you would indicate that when you refer to regulatory bodies, you are referring to the state commissions to which the companies are subject. A. Yes. That is what I mean by the respective regulatory bodies; that is, the Wisconsin Public Service Commission for operations in Wisconsin and the Michigan Public Utilities Commission for operations in Michigan.

At the present time there is now in negotiation between the Public Service Commission of Wisconsin and the electric utility companies operating in Wisconsin a set of rules governing the rendering of service by those utility systems.

The Public Service Commission formulated these rules upon its own motion as a proposed substitute for the rules

Eduard H. Schmidtman—By Respondents—Direct

presently in effect. The list formulated by the Commission included seventy-four rules.

The electric utilities in the State were represented at a hearing at which these proposed rules were discussed and the utilities subsequently submitted a list of forty-two rules which they offered as a substitute for the seventy-four proposed by the Public Service Commission.

Another hearing was held and the matter is now being considered by the Commission's staff and it is expected that an order ordering certain of these rules to become effective 3950

—1,784—

will be issued by the Commission.

Q. Will you describe the general nature of these rules?

A. Yes, these rules cover three general subjects concerning the rendering of electric service.

The first group is in the furnishing of service, itself, and includes rules covering such topics as service requirements, the filing of information with the Public Service Commission of Wisconsin, the non-discriminatory application of rates, the obligation of the utilities systems to furnish service, requirements pertaining to tamper-resistant equipment, billing periods, standard utilization equipment, changes in type of service, and a number of others of a similar nature. 3951

Altogether there are twenty-one rules concerning the furnishing of service.

The second classification of rules covers the operation of a utility plant. There are twenty-three rules in this group. When I give the number of rules, I am referring to the number contained in the list proposed by the Public Service Commission. In this second class are rules concerning the ade-

3952

Edward H. Schmidtman—By Respondents—Direct

quacy of plant, that is generation, transmission and distribution facilities, the periodic inspection of structures and equipment, service interruptions, voltage regulation, electrolysis and tree trimming.

The third group of rules contain a total of thirty rules

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covering metering, tests, and meter accuracies. Among these rules are some covering the measurement of customer service, the type of instruments to be used, the location of meters, types of testing equipment, the checking of test standards by the Public Service Commission of Wisconsin, the accuracy requirements of meters, test procedures, and numerous others of a similar nature.

Upon complaint by customers concerning quality of service or rates or any other matter having to do with the rendering of service to the public, the companies must answer all inquiries made by the Public Service Commission and if hearings are ordered, they prepare material and exhibits and have witnesses at those hearings to represent the companies in the matters brought up.

3954

These matters may be brought up on complaint of customers or they may be brought up at the request of the companies, or upon motion of the Commission, itself.

In any event, the companies make appearances and represent their interests at such hearings or conferences which may result from instances of this kind. In certain cases, where construction is contemplated or changes in the operation of the electrical system that is proposed, the companies must make application and do make application to the Commission, the Wisconsin Michigan if it is in Wisconsin, or if

Edward H. Schmidtman—By Respondents—Direct

3955

it is in Michigan, to that state commission, for authority to

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make the contemplated installation.

Among the instances in which such certificate must be obtained, are cases in which the construction or operation of the electric and gas service in any incorporated city or village, not previously served by the utility, is contemplated. That is, an extension of service into any territory not previously served may not be made without specific approval of the Commission.

3956

Q. And you do make application for such approval? A. We do make application and we do obtain such approval before making such extensions of service.

In case an addition to an electric generating station or gas manufacturing plant is contemplated, or the replacement or change of any of its equipment, the companies apply to the Public Service Commission for a certificate of authority to make such charges.

Before constructing any new transmission line, which will interconnect two sections of the system not previously interconnected, or which will bring into the system a new source of power or will materially change the power supply to any principal load center within the system, or which involves gross property additions in excess of 2 per cent. of the previous year's gross electric operating revenue, the companies apply to the Public Service Commission for certificate of authority to make such construction and the certificate must be obtained before the construction may be made.

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—1,787—

If the companies should desire to construct or enlarge any major sub-station which would effect the changes I have

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Edward H. Schmidtman—By Respondents—Direct

just enumerated above in its electrical system, they also apply to the Public Service Commission for certificate of authority before making such construction.

Before constructing a building, or making other property additions in excess of 2 per cent. of the previous year's gross electric operating revenue, a certificate of authority is applied for and obtained.

3959

Q. In the case of gas service, do you similarly make application for certificates of authority? A. Yes, we do. The rules apply to gas operations as well as to electric.

Under certain conditions the extension of relatively short lengths of line, sometimes less than a mile in length, will accomplish one of these changes which I have enumerated, making it necessary for the companies to obtain permission of the Public Service Commission before construction of such sections of line.

An instance of that would be where a line would be extended into a community or area not previously served.

3960

Q. All these instances which you have given are related to regulation by the Wisconsin Commission? A. Yes, they are. Another respect in which the companies comply with

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regulatory authority, is in connection with the execution of contracts and agreements between affiliated interests. In compliance with the Public Service Commission of Wisconsin's order 2-U-2, issued in June of 1931, all contracts of Wisconsin utilities between affiliated interests must be filed with the Public Service Commission and the approval of that body obtained.

Q. And you do make such filing? A. We do make such filing and we do obtain such approval.

Edward H. Schmidtman—By Respondents—Direct

3961

Q. Will you illustrate generally the nature of the type of arrangement covered by that rule? A. An example of this type of contract is the agreement that was entered into between Wisconsin Electric Power Company and its transportation subsidiary, The Milwaukee Electric Railway and Transport Company.

In October, 1938, the Milwaukee Electric Railway and Light Company, which was the predecessor in name of the Wisconsin Electric Power Company, separated its transportation operations from its electric operations.

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The transportation operations were organized under The Milwaukee Electric Railway and Transport Company as a wholly owned subsidiary of Wisconsin Electric Power Company which now conducts the electric operations.

In separating the transportation from the electric operations of The Milwaukee Electric Railway and Light Company, it was necessary to make certain arrangements re-

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garding the joint use of property which up to that time had been used jointly in both electric and transportation operations.

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Inasmuch as the two businesses were thenceforth to be operated by separate companies, a contract was entered into between them covering the joint use of certain facilities. These contracts were submitted to the Public Service Commission for approval.

Before giving approval of the proposed agreements, Wisconsin Public Service Commission sent an auditor to the offices of the companies at Milwaukee to audit the proposed agreements and the facts concerning them. All the property

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Edward H. Schmidtman—By Respondents—Direct

figures upon which rentals were computed were checked by the auditor against the property ledger accounts and the determination of the rental rates was also investigated.

The Commission's auditor prepared a complete report on the results of his investigation, copy of which was submitted to the companies for review. After submission of the auditor's report, a conference was held by the representatives of the Commission and of the companies, the purpose of which was to answer any questions which the Commission wished to ask as a result of the report submitted by the auditor.

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As a result of this conference, the Public Service Commission issued an order finding that the proposed arrangements were in the public interest and ordering the Wisconsin Electric Power Company to submit annually a detailed

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schedule of all properties involved in the rental arrangement and of all the elements of cost entering into the furnishing of electric power service to The Milwaukee Electric Railway and Transport Company by Wisconsin Electric Power Company.

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Wisconsin Electric Power Company has subsequently submitted such report to the Public Service Commission as of the end of 1939.

Q. Was part of that arrangement of the power contract entered into between the two companies? A. Yes.

Q. And was this similarly filed with and approved by the Commission? A. Yes, the power contract was considered by the Public Service Commission along with the rental arrangement, and the rate charged for power was examined as care-

Edward H. Schmidtman—By Respondents—Direct

3967

fully by the Commission's staff as were the rentals proposed to be charged for the property, at least to the transport company.

Another arrangement in which a contract between affiliated interests was filed with the Public Service Commission and approval of that body obtained before the contract was made effective, arose in the case of the purchase of a piece of electrical equipment by Wisconsin Electric Power Company from the Illinois-Iowa Power Company, an affiliate.

In constructing the 96th Street Sub-station, the Wisconsin Electric Power Company found itself in need of certain

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electrical equipment among which was a 132,000 volt oil circuit breaker.

The company obtained bids on such equipment from the General Electric Company, the Westinghouse Electric Manufacturing Company, and the Condit Company, these bids ranging from about eighteen thousand—well, ranging from \$17,800.00 to slightly over \$18,000.00.

Before placing an order for this breaker, however, Wisconsin Electric Power Company learned that Illinois-Iowa Power Company had an oil circuit breaker which would fill the purpose and which it desired to dispose of.

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Contact was established with the company and terms of purchase were agreed upon, but before going through with the transaction, Wisconsin Electric Power Company applied to Wisconsin Public Service Commission for authority to enter into the purchase contract and carry out the purchase arrangement.

There were some details that had to be worked out in this connection inasmuch as the circuit breaker actually

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Edward H. Schmidtman—By Respondents—Direct

purchased—the circuit breaker which Illinois-Iowa Electric Power Company had for sale, had a reclosing time of 35 cycles, whereas the requirements of Wisconsin Electric Power Company didn't require quite as rapid operation as that.

Because of that fact, the circuit breaker owned by Illinois-Iowa Power Company was of a higher quality and a higher cost than was the type of breaker on which Wisconsin Elec-

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3971

tric Power Company had obtained bids from manufacturers.

In negotiating with Illinois-Iowa Power Company, Wisconsin Electric Power Company insisted that it would not pay anymore for the breaker than it would cost the company to buy new the kind of breaker which its requirements called for and an agreement was reached with the Illinois-Iowa Power Company for the purchase of that oil circuit breaker for \$17,880.00, but before the purchase was made, approval was obtained from the Public Service Commission of Wisconsin.

3972

Q. And when did this instance take place? A. That purchase was made in—that was quite recently.

Q. Approximately. A. I believe it was in 1940. It was in this year, the early part of this year.

Another contract between affiliated interests which was submitted to the Public Service Commission of Wisconsin for approval, is the reciprocal pole contract agreement now in effect between Wisconsin Electric Power Company and Wisconsin Gas & Electric Company.

This agreement provides that where the lines of the two companies followed the same course, that each company may

Edward H. Schmidtman—By Respondents—Direct

3973

place its wires on the poles of the other if there is room for such wires on those poles, without paying any rental for the use of such contacts.

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The arrangement is reciprocal in that each company has the privilege of using the poles of the other and is made on that basis, in order to avoid extensive accounting for numbers of contacts and billing for the use of such property.

Wisconsin Public Service Commission has approved this contract arrangement between the two companies. Some of these contracts which I have described and will describe were in effect prior to the issuance of the Public Service Commission's order requiring the filing of contracts between affiliates.

3974

Those contracts which were in effect at the time the order was issued, were immediately reported to the Public Service Commission of Wisconsin for approval and subsequent to that time, all contracts, between the affiliated companies are reported to the Commission and the approval of the Commission is obtained before the contracts are made effective.

Another arrangement between affiliated companies and one which was in effect before the issuance of the order requiring the filing of such contracts, is the arrangement between Wisconsin Electric Power Company and Wisconsin Gas & Electric Company, and between Wisconsin Electric Power Company and Wisconsin Michigan Power Company, under which Wisconsin Electric Power Company acts as transfer agent and also handles the payment of dividends on preferred stocks of the other two companies.

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Q. Are those operations carried on at the main office of

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Edward H. Schmidtman—By Respondents—Direct

the Wisconsin Electric Power Company in Milwaukee?

A. Yes, they are. This contract was reported to the Public Service Commission immediately upon the issuance of its order concerning such contracts and the approval of the Commission was obtained.

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In connection with this same order of the Service Commission of Wisconsin, the three companies of the Wisconsin-Michigan group of North American properties have submitted to the Public Service Commission information as to the affiliation of all directors and officers and the names of the holders of 1 per cent. or more of the voting capital stock in each of the companies.

At the present time, the companies report annually the twenty largest holders of common stock and preferred stock to the Public Service Commission of Wisconsin.

3978

The Wisconsin Public Service Commission also exercises extensive control over the accounting practices of public utilities and the three companies of the Wisconsin-Michigan group comply with the requirements of the Commission in this respect. Beginning as far back as 1908, when the Railroad Commission of Wisconsin was given jurisdiction over public utilities, the companies have complied with Commission requirements respecting classifications of accounts.

The most recent classification under which the electric and gas utilities in Wisconsin are operating, are the Uniform System of Accounts for electric utilities and the Uniform

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System of Accounts for gas utilities, both of which became effective January 1, 1938.

These classifications are substantially in accord with the system of accounts for electric utilities approved by the

Edward H. Schmidtman—By Respondents—Direct

3979

National Association of Railroad and Utilities Commissioners, and also substantially in accord with the classification of accounts ordered by the Federal Power Commission as of January 1, 1937.

These classifications completely prescribe what accounts shall be kept and specify just what items shall be charged and credited to each account. This classification of accounts covers all balance sheet accounts and all accounts in which revenues and expenses are recorded.

The companies of the Wisconsin-Michigan group comply fully with the requirements of the Public Service Commission in this respect. The three companies of the Wisconsin-Michigan group also filed with the Public Service Commission of Wisconsin their estimates of the average annual rates of depreciation required for the various classes of fixed capital used for public utility purposes, and also the composite annual rate of depreciation required for fixed capital in the aggregate.

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These estimates are submitted to the Wisconsin Public Service Commission for review and for certification, and such certification is obtained before the rates submitted by the

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companies are put into effect in making provisions for depreciation.

Also, pursuant to the request of the Public Service Commission, comprehensive studies of the company's estimate of depreciation requirements were submitted by The Milwaukee Electric Railway and Light Company, the predecessor in name to the Wisconsin Electric Power Company, on November 1, 1933, and again by Wisconsin Electric Power Company on December 29, 1938.

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Edward H. Schmidtman—By Respondents—Direct

Such reports were submitted by Wisconsin Gas and Electric Company on January 31, 1934, and again on June 30, 1938, and by Michigan Power Company on December 30, 1938.

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In compliance with the Public Service Commission's requirements concerning depreciation rates, the companies have repeated their analyses of depreciation requirements so as to keep the depreciation rates currently in effect closely in step with the latest depreciation experience which it does have available.

In further regard to depreciation practices, the companies of the Wisconsin-Michigan group comply with the requirements of the Public Service Commission of Wisconsin with respect to the methods of accruing depreciation as well as with respect to the rates to be used in such accruals.

The utilities are permitted—that is, the utilities of this group—to employ the sinking fund method of depreciation upon specific approval of the Public Service Commission.

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In its Uniform System of Accounts for electric and gas utilities prescribed by the Public Service Commission to be effective January 31, 1938, the Commission has conditioned the use of the sinking fund basis of accumulating depreciation upon the filing within a limited time of statements requesting the use of the sinking fund method.

Wisconsin Electric Power Company, Wisconsin Gas & Electric Company, and Wisconsin Michigan Power Company have filed such statements and have obtained from the Public Service Commission of Wisconsin, an order authorizing the following of the sinking fund method of accruing depreciation.

Edward H. Schmidtman—By Respondents—Direct

3985

With respect to fixed capital accounting, the companies of the Wisconsin-Michigan group also conform to the requirement of the Public Service Commission of Wisconsin and in the case of the Wisconsin Michigan Power Company, the Public Utilities Commission of Michigan.

In a letter dated April 10, 1935, and in a general order issued in November of 1935, the Public Service Commission of Wisconsin required the establishment of certain detailed fixed capital records for the keeping of a so-called continuous inventory or a unit record of property and plant.

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Pursuant to the requirements of that order, the Commission has supervised the taking of inventories and the establishment of unit property records by all three companies in the Wisconsin-Michigan group.

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Prior to the issuance of the Commission's letter and order requiring the establishment of continuous inventory property records, the companies of the Wisconsin-Michigan group were keeping detailed fixed capital records covering all additions and all retirements of property and plant.

These fixed capital records were based upon initial inventories and included all additions and removals from the dates of those inventories down to the present time. The inventory of Wisconsin Electric Power Company which formed the basis for the property record, was one taken in 1914.

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The property record of that company was not instituted until about 1922, but during the succeeding years, all additions and removals of fixed capital of the Wisconsin Electric Power Company since 1914 were carefully analyzed by the property and plant accounting division of the general accounting department. Detailed work order and retirement

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Edward H. Schmidtman—By Respondents—Direct

analyses were prepared covering each construction job and each retirement order, and at the time of the issuance of the Commission's order and letter, Wisconsin Electric Power Company's fixed capital record was an accurate account of all property in service at that time.

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The fixed capital records of Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company were likewise based upon inventories and appraisals taken in earlier years, supplemented by detailed analyses of additions and removals up to the present time.

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The continuous inventory records which are now being established by the three companies of the group are in accordance with the requirements laid down by the Commission in its letter and order requiring the establishment of such records. The records being established by the three companies are not identical in type, the difference being due to the difference in nature of the systems and the convenience and efficiency of keeping records in the different volumes required by the three companies.

The record being kept by the Wisconsin Electric Power Company will be the most detailed unit property record kept by any electric utility in the State of Wisconsin. It is now being developed for overhead transmission and distribution property and will consist basically of punched cards, each card representing one unit of property.

There will be altogether over a million units of property represented by over a million cards, covering the overhead transmission and distribution facilities only. This record is in considerably more detail than is required by the Public

Edward H. Schmidtman—By Respondents—Direct

3991

Service Commission, but the added detail was decided upon by Wisconsin Electric Power Company because of value which the company would receive from having a record of that kind.

The records being developed by Wisconsin Gas & Electric Company and the Wisconsin Michigan Power Company are in less detail, but are still sufficiently detailed and are capable of sufficiently searching controls to completely sat-

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isfy the requirements of the Commission.

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The three companies of the Wisconsin-Michigan group also comply with requirements of the Public Service Commission of Wisconsin and the Michigan Public Utilities Commission with respect to detailed annual reports covering financial and statistical, as well as accounting data.

At present separate annual financial and operating reports are submitted by the utilities. Both reports are very extensive and cover detailed data on the companies operations. The companies also furnish currently to the Commission copies of their monthly financial and operating reports.

The companies of the group also comply with the requirements of the Public Service Commission of Wisconsin with respect to the reclassification of the utilities' plant on the basis of original cost. Report covering extensive investigations of the records of the three companies have been filed with the Public Service Commission of Wisconsin, setting forth the reclassification of property on the original cost basis.

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In addition to submitting reports covering the operations and financial results of the electric utility and gas

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Edward H. Schmidtman—By Respondents—Direct

utility operations, the companies also comply with the Commission's authority covering the merchandising of electrical and gas appliances.

In the case of acquisitions of utility properties, such as

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the purchase of small isolated systems; the three companies comply with Commission requirements with respect to accounting and price paid for such properties. The accounting that is carried out is strictly in accordance with the Commission requirements and if the price paid for the property differs from the values found by the Commission, the differences must be accounted for according to instructions by the regulatory Commission.

3995

Q. Are the companies in the group subject to regulation by the State Commission with respect to issuance of securities? A. Yes, they are.

Q. And do they file applications with the Commission with respect to such issuance? A. Yes. The companies of the group have not issued any securities since 1907 without first obtaining authority from the Public Service Commission.

3996

All proposed issues of securities of whatever type, must be submitted to the Commission for examination and approval before being issued, and all issues of securities made by the three companies have had such certificates of approval from the regulatory authorities.

Q. In the case of Wisconsin Michigan Power Company, doesn't that also mean getting the approval of the Commission for the issuance of securities? A. Yes.

Q. So that in that instance you have duplicate regulation

—1,802—

Edward H. Schmidtman—By Respondents—Direct

3997

of the issues, of the same security issues? A. Yes, that is right. When the Wisconsin Michigan Power Company wishes to issue securities, such issues must have the approval of the Michigan Public Utilities Commission as well as of the Wisconsin Public Service Commission.

Pursuant to the authority of the Commissions over the issuance of securities, the Wisconsin-Michigan companies have filed numerous applications, some of the recent ones being the application of the Wisconsin Michigan Electric Power Company filed February 20, 1940, for authority to issue 4¾ per cent. preferred stock and common stock, the application filed by Wisconsin Gas & Electric Company on June 19, 1939, for authority to issue 4½ per cent. preferred stock and 2¾ per cent. unsecured promissory notes, and the application of the Wisconsin Michigan Power Company, filed on October 30, 1939, for authority to issue 4½ per cent. preferred stock, 2½ per cent. promissory notes, and common stock. 3998

Applications filed with the Commissions covering these issues contain statements as to the purpose, the terms, and the proposed distribution of the proceeds of the sale of such securities. 3999

They also stated the minimum price and gave various financial information such as income statements, balance sheets, and pro forma statements showing the effect of the proposed transactions.

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After application for the issuance of securities has been filed with the Commission, public hearings are held wherever it is deemed possible, by the Commission, that the interest of third parties may be affected.

4000

Edward H. Schmidtman—By Respondents—Direct

In the case of Wisconsin Electric Power Company, for instance, such hearings have been attended by representatives of the City of Milwaukee, the representatives appearing at such hearings in the public interest.

Q. Now, without going into detail on questions of form of application and hearings, subsequent to the entry of the Commission's orders approving the issuance of securities, are further reports filed by the companies with respect to the application proceeds and other related matters?

4001

The Witness: Will you read the question?

(Whereupon the pending question was read by the reporter.)

The Witness: Yes, such reports are required by the Commission.

By Mr. Hamilton:

4002

Q. And are filed by the companies? A. Yes, and are filed by the companies. These statements set forth complete descriptions of the transactions, the detailed accounting for the proceeds received from the sale of the securities, and the disposition of such proceeds, and copies of the journal entries reflecting the transactions on the books of the company have also been filed in such reports.

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Q. Proceed with your statement. A. The approval of the Public Service Commission of Wisconsin and the Public Utilities Commission of Michigan is also required in the case of the consolidation or acquisition of the property or securities of one utility by another.

Edward H. Schmidtman—By Respondents—Direct

4003

In such instances, the Commission holds public hearings and considers the reasonable value of the property or securities involved and gives consideration to the effect of the proposed transactions upon the utility merging or acquiring such properties or securities.

Similar consideration is given by the Commission to the sale or leasing or renting of any utility property constituting a complete operating unit or system.

Pursuant to the authority of the Commission, the companies have, on numerous occasions, applied for and received authorization, some including the consolidation of the former Wisconsin Electric Power Company with the Milwaukee Electric Railway and Light Company, the sale of certain transportation properties of the former The Milwaukee Electric Railway and Light Company to The Milwaukee Electric Railway and Transport Company, the present transportation subsidiary of the Wisconsin Electric Power Company, and the acquisition by Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company of numerous small operating utility systems from time to time, some involving a consideration of as little as \$800.00.

4004

4005

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No abandonments or discontinuance of service of any line, nor any extension of service into new territory, may be made, nor has been made by the companies of the Wisconsin-Michigan group without first securing specific approval from the Wisconsin Public Service Commission.

In granting its approval to abandon property, the Commission may impose such terms or requirements as are necessary to protect the public interest and it does impose such requirements.

4006

Edward H. Schmidtman—By Respondents—Direct

Among those requirements are specifications as to the accounting for ~~the~~ book value of the property abandoned, the method of amortizing the investment, and the establishment of substitute service for the service discontinued.

Q. Have you any data as to the expense to the companies of the Wisconsin-Michigan group of complying with regulation by the Wisconsin Commission? A. Yes, I have. In the year 1939, the total costs incurred by Wisconsin Electric Power Company in complying with the requirements of all
4007 regulatory authorities, was \$102,500.00.

Q. My question relates only to the Wisconsin Commission. A. The expenses incurred by Wisconsin Electric Power as the result of regulation by the Public Service Commission of Wisconsin in 1939 amounted to slightly over \$96,000.00. For Wisconsin Gas & Electric Company, the corresponding figure is slightly over \$40,000.00, and for Wisconsin Michigan Power Company the cost of regulation by the Wisconsin
—1,806—

Public Service Commission was slightly over \$8,500.00.

4008

Q. Are those figures which you have given exclusive of any financing charges? A. Yes, they are.

Q. Do they include your direct labor at cost in connection with the reports and statistical findings? A. Yes, they include direct labor at actual cost and they also include assessments paid to the Commission by the companies to cover costs of investigations conducted by the staff of the Public Service Commission.

These assessments consist of two general classes. In ordering an investigation of any phase of the business of a public utility in Wisconsin, the Public Service Commission may

Edward H. Schmidtman—By Respondents—Direct

4009

and frequently does order the cost of such investigation to be assessed directly against the company investigated.

In addition to such assessments the Commission makes, near the end of each fiscal year, what is known as a remainder assessment, which is made in order to cover the costs of the Commission over and above the money collected by the direct assessments of specific investigations.

The figures which I have given include both the direct assessments and the remainder assessments.

4010

Q. In order to clarify your statement, isn't it true that the figures which you have given are exclusive of any filing —1,807—

fees in connection with the issuance of securities? A. Yes, that is true. These costs which I have just given come about partly through investigations which the Public Service Commission has had under way in the offices of our three companies for some time.

Since 1932, the Public Service Commission has had representatives working continuously in the offices of one or more of the three companies of the Wisconsin-Michigan group down to the present time.

4011

At times, the number of Commission representatives working in the office of one company has found as great as six or seven individuals, and at one time during that period have the forces been entirely withdrawn.

There have been short interruptions due to sicknesses and vacations, but the people of the Commission's staff assigned to those investigations have been spending full time on these investigations.

4012

Gould W. Van Derzee—By Respondents—Direct

Q. Do either Wisconsin Gas & Electric Company or Wisconsin Electric Power Company own or operate any electric or gas transmission or distribution facilities outside of the State of Wisconsin? A. No.

Q. Either of the two companies which I have just named transmit or distribute electric energy or gas outside of the State of Wisconsin? A. No, they do not.

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4013

Mr. Hamilton: That is all.

Miss Calkins: I should like to defer cross examination until this afternoon.

The Examiner: Very well. You may be excused temporarily.

Whereupon, GOULD W. VAN DERZEE, a witness called on behalf of the Respondents, having been first duly sworn, was examined and testified as follows:

4014

Direct Examination by Mr. Browning:

Q. Will you give your full name and address to the reporter, Mr. Van Derzee? A. Gould W. Van Derzee.

(Discussion off the record.)

Q. Did you give your residence? A. My residence is Whitefish Bay, Wisconsin.

Q. Will you describe briefly your education and business experience? A. Well, I had better go back to the beginning. I was born in Albany, New York, January 8, 1886, and at the age of four my parents moved to Superior, Wisconsin.

Gould W. Van Derzee—By Respondents—Direct

4015

After three years there, they moved again to Green Bay, Wisconsin, where I attended the grade school for seven years, until about 1900. Then the family moved to Chicago and I had one year in grade school and thus finished the grade —1,809—

school, and one year in high school. We then moved back to Wisconsin, which was becoming our native land and I finished my secondary education first in the high school in Milwaukee, being there for three years, and then took my university education at Madison, Wisconsin.

4016

My course was electrical engineering and in 1908 I received the degree of bachelor of science in electrical engineering.

Q. This was at the University of Wisconsin? A. That is right. Before I went to the university, I had the idea that I wanted to get into what was then known as the Central Station Business, now the Public Utility Business. I thought the best way to do that was to gain employment with some large electrical manufacturing concern, but when I graduated, it was shortly after the money panic of 1907 and I was unable to get into the shops of the General Electric Company where I really wanted to go, so I took a position in the Michigan School of Mines at Houghton, Michigan, teaching mathematics, physics and electrical subjects, until the summer of 1910.

4017

Then, I was able to follow my original intent and secured a position with the General Electric Company in the shops, if you can call that a position. You can better call it a job.

From July, 1910, until about February, 1911, I worked in the shops of the General Electric Company at Schenectady, on the sixty-hour a week night shift. We did shop work,

4018

Gould W. Van Derzee—By Respondents—Direct

tested and assembled electric equipment of all kinds, direct

—1,810—

current motors and generators, alternating current motors of the squirrel cage and slip ring type, synchronous motor generator sets, and I even worked, I recollect, on balancing the rotor of one of the large vertical turbines that were going through the shop then and which was destined to go to the company that I am working for now.

4019

In February 1911 I applied for an examination to get into the sales work in the General Electric Company. You had to face some barrier of sales experts and give them, by questioning on their part, what you knew about the work you had taken in the shops. I was able to pass that examination and in February 1911 I landed in the Chicago office of the General Electric Company in sales work. There I assisted one of the salesmen, a rather mediocre job.

4020

Shortly after that in May 1911 the General Electric Company decided to open up an office in Milwaukee and that was heading towards my home town so I applied for a position as assistant to the one-man manager who was to go there and fortunately for me I secured the position.

In a little while I had a sales quota to accomplish during the year, that is a designated amount of goods to sell, and for the next year or so, to be exact until March 1, 1913, I was selling from door to door, gaining experience in the sales work which I was really very much interested in. The work was quite largely going into factories, observing the then

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very prevalent line shafting that you would see in a factory driven by an individual gas engine or steam engine, and endeavoring to show the owner how he could save money by

Gould W. Van Derzee—By Respondents—Direct

4021

buying the motors and equipment which I had to sell, and figuring out for him where those motors should go using individual drive and doing away with friction losses, doing away with the steam engine and some saving in labor.

So I worked in that way for the period of time indicated, trying to cooperate as much as possible with the utility then known as The Milwaukee Electric Railway and Light Company which was in that city, which did the central station or public utility business, March 1, 1913 was a very important date for me. When vice president S. B. Way, who is now president of Wisconsin Electric Power Company, the successor to the then The Milwaukee Electric Railway and Light Company, called me in his office and offered me a job which I took as assistant to him.

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In 1918—skipping over the intervening years—I was appointed assistant general manager of the company, in 1925 vice president and assistant general manager. In 1932 I was elected to the board of directors, and in 1934 was appointed general manager and a member of the executive committee, and from that time until the present I have held the position of vice president and general manager.

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I am also vice president and director of The Milwaukee Electric Railway and Transport Company which is a wholly-owned subsidiary of the Wisconsin Electric Power Company, a vice president and director of Wisconsin Gas and Electric Company, and a vice president and director of Wisconsin Michigan Power Company, and have been the vice president of each since 1932.

I hold the position of vice president and director of Wisconsin General Railway, also a subsidiary of Wisconsin

4024

Gould W. Van Derzee—By Respondents—Direct

Electric Power Company, and am vice president and director of Milwaukee Light, Heat and Traction Company, and vice president and director of Hevi-Duty Electric Company.

4025

Q. How long have you resided in Milwaukee or its suburbs? A. I have been continuously in Milwaukee and its suburbs for approximately 29 years, of which I have been with the company going on 28 years. In the village of Whitefish Bay, which has a population now of about 10,000, I have served as trustee of the Village board for three consecutive terms of two years each. During that time I was chairman of the finance committee and chairman of the zoning and park committee. I have been president of the Community Church of the village of Whitefish Bay.

In the metropolitan area my outside duties have included active participation in the work of the Traveler's Aid Society, the Family Welfare Association, with which I worked intimately on their case committees, and the Community Fund.

4026

Q. Those are community activities of greater Milwaukee?

—1,813—

A. That is true, and in general I have tried to do my share at least, as I saw it, in the community activities of the city where I make a living and where I have lived with little exception almost continuously, except when I was away at a few of the jobs enumerated, for nearly 40 years.

—1,814—

Q. Are you a director of a Milwaukee bank? A. I am a director of the Marshall and Ilsley Bank. This bank is the oldest bank in what was once known as the Northwest Territory and it is the second largest bank in Wisconsin. I am

Gould W. Van Derzee—By Respondents—Direct

4027

a member of the executive committee of that bank as well as being a director.

Q. Have you held any office in the Gyro Club? A. I have been president of the Gyro Club, which is an international business men's organization.

Q. Will you tell us who are the members of the board of directors of the Wisconsin Electric Power Company and when they were elected to office? A. I will give the name first and then the date on which each was elected to the board:

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Sylvester B. Way.....	May 28, 1921
Gould W. Van Derzee.....	June 27, 1932
Frank J. Boehm.....	August 31, 1937
James D. Shaw.....	December 19, 1927
William W. Coleman.....	January 25, 1926
Herbert C. Freeman.....	February 14, 1933
James F. Fogarty.....	May 31, 1921
Frederick H. Piske.....	August 31, 1937
Robert Sealy	December 20, 1938

Q. Now, will you tell us briefly about Mr. Way? First, you might say what position he holds. A. Mr. Way is presi-

4029

dent of Wisconsin Electric Power Company. He is a resident of the city of Milwaukee and he is 66 years old. Mr. Way's history records that he attended the grade and high schools in the state of Kansas, completing his common school education at the age of 17. He received a scholarship and entered Drexel Institute in Philadelphia in the fall of 1892. After leaving school in 1896 he entered the employment of the Electric Storage Battery Company as a draftsman. Later he

4030

Gould W. Van Derzee—By Respondents—Direct

became an erecting engineer with the same company and one of his assignments took him to the city of St. Louis.

After completing this particular job he remained in St. Louis and entered the employment of the Imperial Electric Light, Heat and Power Company, a predecessor of the present Union Electric Company of Missouri, in the position of chief engineer or electrician.

In 1903 he advanced to the position of chief electrical engineer, which position he held until leaving that company.

4031

Mr. Way entered the service of The Milwaukee Electric Railway and Light Company, the predecessor to the present Wisconsin Electric Power Company, on November 1, 1911, as assistant general manager in charge of the electric and heating operations. On April 1, 1914 he was elected to the position of vice president and general manager and on October 23, 1925, he was elected president of the company and continued as general manager until March 1934, at which time he relinquished the position of general manager.

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Mr. Way received his early training with the St. Louis subsidiary of the North American Company and was moved to Milwaukee by the North American Company. Mr. Way has resided in the territory served by the companies for over 28 years and has been with the company for 28 years.

There are some things that Mr. Way would not want to say if he were making this record but it can be said truthfully that Mr. Way is an outstanding utility executive in this country and that he has left a very definite mark on the utility industry. He is what you would describe as a prodigious worker. He has devoted his life to the company, really, and his intense passion for finding better and cheaper

Gould W. Van Derzee—By Respondents—Direct

4033

ways to do things has really resulted in some very remarkable engineering achievements which the company and the industry have enjoyed.

I have given my own history as a director of the company and a long local resident of the community.

Next we come to Mr. Frank J. Boehm. Mr. Boehm also resides in the village of Whitefish Bay. He is now an elderly gentleman, 73 years old. Mr. Boehm entered the service of a predecessor company of the present Wisconsin Electric Power Company on February 6, 1882, as a clerk. Starting from that date his progress record reads something as follows:

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On January 1, 1886 he was assistant bookkeeper. January 1, 1891, bookkeeper. February 1, 1906, he rose to the position of comptroller and auditor. On March 26, 1906, as—

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assistant secretary and assistant treasurer. On March 23, 1926, secretary and treasurer, the position he now holds.

Mr. Boehm is really an unusual personality. He started in the business when they had straw in the bottom of the cars to keep your feet warm in the horse-car days. One of Mr. Boehm's early recollections of his job is waiting for horse-cars to go by the small office of the company, his job being that known as the robber of fare boxes. Mr. Boehm would see the car coming and knew that it had some money on board because of the number of trips that he had allowed it to go by without taking the money, and he would jump on the car, take the money, put it in a sack, and then take it to the bank. Those were the primitive early accounting operations of the early street car days.

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Gould W. Van Derzee—By Respondents—Direct

Q. He has resided in the territory then during this period of 58 years? A. Most of his life.

Mr. James D. Shaw is a director whose residence is Milwaukee. Mr. Shaw is 61 years old. He was graduated from the law school of the University of Wisconsin. He entered the service of the company on September 1, 1899, as an attorney and member of the law firm which was then counsel for the company. At the present time he is senior member of the law firm of Shaw, Muskat and Paulsen, which firm is general counsel for the company in Milwaukee.

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Mr. Shaw also has a record of long residence in the local community and has been with the company 40 years. In fact, I had the personal pleasure of bestowing upon him last year at our annual meeting of the Veterans' Association, the so-called double veterans' medal for 40 years of continuous service.

Mr. William W. Coleman is a resident of Milwaukee. Mr. Coleman is president and chairman of the board of directors of Bucyrus Erie Company, which is located at South Milwaukee, Wisconsin. Mr. Coleman has been a resident of the local community for many years and a director of this company for 14 years. He is recognized as an outstanding public spirited citizen and for many years he has been president of the Community Fund, that is the community of greater Milwaukee area.

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Mr. Herbert C. Freeman is vice president of the North American Company and has been in the employ of that company in New York for approximately 14 years. He is also a director of Wisconsin Electric Power Company and has been such for seven years.

Gould W. Van Derzee—By Respondents—Direct

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Mr. James F. Fogarty is chairman of the executive and finance committee of the North American Company. He entered the employ of the North American Company approximately 38 years ago as a junior clerk and has been a director of Wisconsin Electric Power Company for a little more than 19 years.

Frederick H. Piske is a vice president of the North American Company. He entered the employ of the North American Company approximately 30 years ago as a junior clerk and has been a director of Wisconsin Electric Power Com-

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pany for a little less than three years.

Mr. Robert Sealy, as I recollect, served in the capacity of sales manager for The Milwaukee Electric Railway and Light Company back in 1912 when I was still working for General Electric Company in Milwaukee. It happened that we had our offices in the Public Service Building and he came on for a time, sent by the North American Company to fill an existing gap as sales manager until another could be secured.

After leaving The Milwaukee Electric Railway and Light Company then Mr. Sealy entered the employment of the North American Company and is now treasurer of that company. He has been a director of the Wisconsin Electric Power Company for a little less than two years. Both Mr. Piske and Mr. Sealy, who are the directors who have been with the company the shortest period of time, have for a great many years been intimately connected with the operations of the company and I say that because I did not want to have the impression left that the short time they have been with the company has anything to do with the real knowledge

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Gould W. Van Derzee—By Respondents—Direct

that they have of the company affairs and the same can be said with respect to all of the directors of the company, irrespective of how long they have been with the company, that they do have a very intimate knowledge of the affairs of the company.

It is interesting to note in connection with the enumeration of the directors, that five of the nine directors have been
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local residents in Wisconsin for many years and are a part of the community in which they live.

Q. How often does the board of directors meet and what are its functions, Mr. Van Derzee? A. The board of directors of the Wisconsin Electric Power Company normally meets a minimum of four times a month—

Q. A month? A. A year—but the executive committee which is composed of Messrs. Way, Van Derzee, Shaw and Coleman meets generally once a week. The board of directors is in charge, naturally, of the active management of the business and directs the business in all of its phases.

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All of the directors, as I have stated previously, are intimately connected with the affairs of the company and its operations, and all of the directors receive at least once a month detailed reports, on the 15th or before, of the operations of the company in great detail, covering the previous month.

While the board of directors takes all the formal action such as declaration of dividends, election of officers, authorization of the issuance of securities and things like that are set up in the articles of incorporation, the board has delegated to the executive committee and has found it more con-

Gould W. Van Derzee—By Respondents—Direct

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venient to do so, the closer supervision of the operating affairs of the company.

As stated previously the executive committee consists of
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Messrs. Way, Van Derzee, Shaw and Coleman, all of whom reside in Milwaukee, and this committee meets weekly unless there is some reason why they can't get a quorum.

These meetings are often very extended, and at them all of the important operating conditions and problems of the company are discussed in great detail.

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I would like to go down through what is the normal agenda for a meeting of that kind so that you can better appreciate the intimate detail in which the executive committee functions with respect to the problems of the business.

The first thing that usually comes up at a meeting of the executive committee is a report of the cash on hand. We have a statement of the major receipts of cash, such as from electric and heating operations, merchandise, and miscellaneous sources; the disbursements of cash by their major divisions are given.

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In other words, if we have made a large contract on a turbine it is shown as a contract disbursement. If we have paid a dividend it will be shown as a dividend disbursement. The pay roll is set out. If we pay an important tax item that is set forth, and all the other miscellaneous disbursements are shown which are of importance.

Then after those are discussed as necessary we look at the forecast of cash which is usually with us for a period of 12 months ahead and we can determine from that and the problems which are coming up that require expenditures of

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Gould W. Van Derzee—By Respondents—Direct

cash, if the amount of money we have on hand in sight is

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going to meet the needs of the business.

The next item which usually follows is under the heading of "Public Service Commission matters". Under that are applications which have been made to the Public Service Commission by the company and by others for various reasons, and orders which are received from time to time from the Commission.

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For example, at a recent meeting a few weeks ago I recollect we discussed an order handed down by the Commission on the very complicated subject of depreciation. This order provided for the sinking fund method of depreciation with a $3\frac{1}{2}$ per cent. interest addition annually to the reserve balances.

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The directors of the company who are on the executive committee understand, I believe, with more than ordinary understanding, a problem as complicated as the discussion of sinking fund depreciation. It is, of course, one of our duties to determine under this heading whether or not action shall be taken on an order, that is, is it one that the company may properly accept in the interest of the business? Should it be objected to through the regular channels provided for such objections? And, in connection with this particular order that I just recited it was our conclusion that the order should be accepted, that it was a proper one for the company to follow.

Another important topic that is taken up by the executive committee and usually following in the order just given, is that of municipal matters. We, of course, receive from

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Gould W. Van Derzee—By Respondents—Direct.

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the many municipalities in which we do business copies of the minutes of their various deliberations and undertakings. Those are scanned to see what, if any, decisions, discussions, have an important bearing on the operations of the company. They are brought to the meeting in a condensed form and discussed.

As an example of one of those discussions a number of months ago when we decided we needed to increase the capacity of the 96th Street high voltage sub-station we ran into the very uncomfortable discovery that the property had been rezoned for residential purposes. It was necessary to have the zoning changed. Our representatives who handle those matters took the subject up in the regular course of duty and at this recent meeting that I recollect we discussed the formal and final order of the county board rezoning the 96th Street sub-station so as to permit the extensive development the company was about to make at that point.

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We try to keep the members of the executive committee informed on all operating matters. We have a heading in the agenda which is "Operating Matters". We don't pretend to cover everything under that heading but there are some things that are usually and normally covered every week under that heading.

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The directors are very much interested in the kilowatt hour output of the company for the preceding week. They are interested in comparing that with figures which we have at the same time showing the kilowatt hour output of the

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several subsidiaries of the North American Company, St. Louis, Cleveland, Washington, and the comparison of the percentage increase of our output for the past week, for the

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Gould W. Van Derzee—By Respondents—Direct

previous year, and with the results of the other companies, affords text for a good deal of discussion as to what the reasons for departures are, what the business condition is that may have brought about changes, and what we can do, if anything, to change any trend that may be evident, not from a single week but from our knowledge of what has happened over a period of weeks.

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The comparison is also made with the national output which, of course, is more of a composite figure and does not mean so much because it reflects conditions all over the country, while a comparison of these associated properties in the North American group which, with the exception of Washington, are highly industrialized like Milwaukee, gives us a very good comparative basis for discussion.

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We report at these meetings under the heading of "Operating Conditions", the property additions and the property retirements of the company by each individual work order, and property retirement requisition. This is only done once a month but it is possible by this method to see just how the different operating divisions are functioning on the important subject of keeping within the budgets which the executive committee has previously gone over in great detail and which are the law of the land as far as the operating departments are concerned on the question of allowable expenditure.

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When special projects come up and they do, if we don't have enough, as we see it, in the operating budget over-all allowance made at the beginning of the year, then it is necessary for the executive committee to make a special appropria-

Gould W. Van Dergze—By Respondents—Direct

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tion. The work cannot proceed without such an appropriation.

We discuss many other matters under this heading regularly. They include such things as power plant efficiency.

— We have what we believe are some very excellent power plants that I would like to discuss more in detail a little later. We regularly have once a month the kilowatt hours used by 30 large industrial customers who have been on the system for a good many years and whose changing use of kilowatt hours we think is a rather good index of industrial operations, so we see what is happening to that curve.

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It might be interesting for you to know that that curve has been in operation for a period preceding 1929 and in June 1929 that curve took a decided slump but in the presence of all the history that had gone before we did not realize the importance of that particular curve and the slump which it took in that month. History has shown that that was the month in which business actually began the slump before the severe depression that started publicly in October of that year.

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We also have before us the results of impressions and conclusions of a number of economists and business analysts.

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We take these for what we think they are worth and it is good to get all kinds of opinions, particularly at this time, on the business situation. We also are interested in watching the ups and downs and predictions with respect to the Federal Reserve Board index of industrial production. We have to attempt to predict that a year ahead in making up our budgets because the largest single unit of electric service

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Gould W. Van Derzee—By Respondents—Direct

sales is in the field of industrial power and that has some relation to the business situation.

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I will not attempt to enumerate all of the other things that are handled under the heading of "Operating Matters", but rather go to one of the very important subjects that we discussed at each meeting, relating to sales promotion. Under this heading the accomplishments of the sales department are discussed. The meeting is not devoted entirely to a discussion of accomplishments except insofar as a study of history is a good index of what we ought to do in the future, but we do discuss and look at the most recent history of the operations of the sales department we can get.

We have up to the period of the month ending the night before the meeting at each of these meetings of the executive committee, a statement of the number of electric ranges which have been sold for the month and the year to date, compared with the corresponding periods of the preceding year.

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We have a similar statement of the number of water heaters, electrically operated naturally, that are similarly sold. The number of better-sight lamps, the number of roasters, which are a very important item in creating a desire to cook electrically. We also have a record of the amount in dollars of the incandescent lamp bulbs that are sold because that is some index of how well the boys are doing in getting new bulbs into homes.

Some of these figures are for the industry as a whole insofar as we can get it, for these sales, and that includes electric water heaters and electric ranges, but the other comparative sales which include refrigerators are just the sales of our own sales department.

In that connection I would like to emphasize that we place stress on the selling of things that the average merchant is unable to proceed with as enthusiastically as we would like to see him. That is because in some of these things there is a tremendous sales development expense. That has been going on in the promotion of electric water heaters. They have not as yet reached the complete stage of acceptance, say, that an electric refrigerator has, and it is true of other things.

An example which may never be a practical device is an electric garbage burner. You don't hear about electric garbage burners. There are good reasons why you don't hear about them. They can be made. They are very expensive. They can't be sold in quantity. A dealer just will not put them on the shelf. A dealer will put the things on the shelf

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when the time comes that they have national acceptance and they are easy to sell without necessarily having high sales expense by a salesman calling door to door, and when he can expect to have the public come in and take such devices off the shelf.

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We discuss at these meetings of the executive committee, the new sales developments and we give our advice to the vice president in charge of sales. If he has a project that we don't think is particularly good, and yet about which he is particularly enthusiastic, he may be invited into the executive committee to give his own views on the subject. We try to keep our head officers and others informed on the supervision that the executive committee gives locally to the operations of this company, not only so that they will know what is going on, but because the knowledge that their problems

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Gould W. Van Derzee—By Respondents—Direct

are intimately looked at week by week by the head officers of the company, is an encouraging thing, and there isn't a single thing that the company does that really requires more encouragement and the injection of more enthusiasm than the business of selling. It is a study of psychology. You can put the damper on sales efforts by a word or a gesture. I did not mean to say that sales people are opera singers but they do have some of the tendencies and they need to be treated in a very definite way and with an understanding of what their problems are.

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To do that you have to do it from door to door. As an
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example of some of the things that the executive committee approves, we had at a recent meeting a recommendation by the sales manager that the company cooperate rather extensively with a Milwaukee newspaper called the Milwaukee Sentinel, in a Feminine Fair to be held at the Milwaukee auditorium which seats some 15,000 people, in connection with which, if we so desired to cooperate, they would have among other things to attract the women of the community, an all-electric cooking exhibit, and they would go so far as to build and give away as a prize to the lucky one who drew the number, this \$8,000 all-electric home.

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We were asked to cooperate with the Wisconsin Chapter of Architects which was called upon by the Milwaukee Sentinel to build this home and make it an all-electric home. We had some other plans for the year end leading up to the Christmas period when we try to get as many people as possible to buy electrical gifts for Christmas, but this sounded so good to us that we decided to shift an item of several thousand dollars that we had for a year-end contest

to cooperating with the Milwaukee Sentinel in carrying on the project of the Feminine Fair with its attendant gift of an all-electric home.

(Discussion off the record.)

Q. Now, you have another item on the agenda entitled "Miscellaneous Matters"? A. Yes. Under that heading we bring to the attention of the committee information on any activity which has occurred during the past week and which

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is normally not handled under some other heading.

We also regularly have a discussion of coal. We give the amount of coal on hand, the amount received and disbursed. When coal contracts are up to be signed, the price details, where the coal is coming from, are all brought before the executive committee before the officers execute contracts.

We naturally have the very important subdivision known as the "Labor Situation". This does not mean that there is necessarily anything requiring particular attention on the subject of labor but we do think it is a good thing to have the executive committee see the number of people who are entering the services of the company each week, the number that are leaving, and to have them divided by important groups, that is how many came into the accounting department, how many left the accounting department, how many came into the electric distribution department and how many left.

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Just recently there was a rather large increase in the electric distribution department. Immediately the committee wanted to know why that occurred and it was due to the employment of a substantial number of needy students

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Gould W. Van Derzee—By Respondents—Direct

who were good, big and husky and wanted to work during the summer, and were just the men that we like to have get out and dig ditches.

The only real complaint I have ever heard in connection with employing these students—I think we had over 50 during the summer—was that they have the objective of in-

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✓ creasing the size of their muscles and that isn't definitely known to be a characteristic of the average workman doing the same work and the trouble is they set too fast a pace, but that was the explanation and similarly in other cases explanations are given why there are departures in any considerable magnitude in the number of people on the pay roll.

I will tell you at a different time my own personal observation of the detail which is back of these records that are presented to the executive committee, where we get into each individual person who changes his status in any way, in which examination we see the individual, not personally but through the report that is presented, as to why he is leaving, why his status is changing in any way.

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In exceptional cases where the officers think that they need the advice of the executive committee some of them are taken to the executive committee for counsel and advice.

In addition to the foregoing matters there are a number of important subjects which come before the committee at irregular intervals. Among these is the determination of the necessity of installing additional power plants. Just recently that subject came home with a bang. We had set aside cash to finish the Commerce Street power plant extension which you have heard about and we thought that no

Gould W. Van Dersce—By Respondents—Direct

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new power plant extensions would be required, even to be thought about, at least until sometime in 1941, but the

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advent of the war and the effect on the preparedness program of this country made it essential to give consideration to our meeting without question the known and even the doubtful needs of industry for power in order to carry on preparedness.

We had a discussion down at the New York office, along with the other officers of several North American companies—

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Q. North American subsidiaries? A. —subsidiaries, in which each one put his cards on the table about the power problems that he had. We got considerable information on the various views as to how much additional power would be required for preparedness purposes, and it was quite interesting to note that except in cases where there were explainable differences the amount of power estimated to be required for preparedness purposes was fairly close together in several subsidiaries of the North American Company which are in industrial centers.

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We came away from that meeting after getting the intimate views of what was likely to happen in the preparedness field, with a very definite feeling that we ought to reconsider our previous intentions not to install any more power plant capacity in the immediate future.

That culminated in a very careful study covering the installation of an 80,000 kilowatt unit known as Port Washington No. 2, at Port Washington, Wisconsin.

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Gould W. Van Derzee—By Respondents—Direct

When I say, as I did, that there are a number of rather important and irregularly occurring subjects before the executive committee, I mention this as one of the very important ones of that type.

We also have at least once a year another extremely important operation which is supervised by the executive committee, and that is passing on the sum total and also in general the details of the construction budgets and the operating budgets of the company.

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There is prepared by each department that does construction work or has occasion to make any kind of expenditures, a budget showing by each individual item of construction the name of it, the amount that it is expected to cost, and in an accompanying outline the particular reason why the department head thinks that that is a necessary piece of construction to be put in during the coming year.

That is, shortly we will begin preparation of the construction budget for the entire year of 1941. As a matter of fact the underlying divisions and departments are working on it now, but we will have it ready sometime in November. We, of course, know further ahead than that just what we ought to do about the large and important expenditures for power plants which I have previously described to you.

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The executive committee reviews, not in great detail, each underlying individual item, but it does rely on the judgment of the general executive officers whose functions and names I

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will describe to you later, as to the necessity for these individual expenditures. It is, however, very deeply concerned with the total amount of money to be spent as covered by the budget and with the means of getting that money

for such expense, and if no immediate efficient method of getting the needed amount appears to the executive committee, the budget is sent back with instructions that some substitute method that might defer without endangering the service, the different construction items, be found.

That just very briefly indicates what the executive committee does on the construction budget. It does not mean that the departments are thereupon authorized to spend, without further supervision, the money required to do all this construction work, and there may be occasion a little later to go into that in connection with what are the duties of these general executive officers which were mentioned.

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We go through somewhat the same general supervisory review of what we call the operating budget. Probably there is no document that is prepared by our company that requires such detailed research, such prediction in advance, of every single movement and operation that costs money, that this one does. Our detailed operating budget is made up by all of the individual primary, secondary, and every other account that appears on the books. In other words, if Account 145 is the number which is used on the charge account for premises expenses, then someone familiar with the nature

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of the charges that go to that account, with the possibility of improvement in the account, by reducing it, of course, figures out approximately the budget for that account for the coming year.

There are literally thousands of those accounts. They are reviewed first by the department heads after the men as far down the line as possible give their ideas on what the necessary expenditures for good service should be. Those budgets

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Gould W. Van Derzee—By Respondents—Direct

are then passed to the vice president in charge of the particular department. They then come to the general manager as one of the general executive officers and in this process there may be a great many changes made.

When they finally come to the executive committee they are supposed to be formed, and are formed so as to represent approximately the revenues we expect to collect and the disposition of those revenues by classes of services, by functions of the business, such as electric and heating.

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The executive committee then approves the final operating budget and it may not be changed without the approval of the executive committee.

I think that those are fair examples of the irregularly occurring important items that come before the executive committee. Now, it might be said that in general the executive committee is in constant and, I think, most intimate touch with the affairs of this business. They are in touch with all of the important decisions of management and have

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really approved all of them except those that are naturally left with the officers of the company in their discretion, but the discretion even is handed down. The officers understand the limits in which that discretion may operate.

The minutes of the executive committee, I know from experience because I have been the secretary, are usually dictated within the hour after the meeting has finished, and are distributed promptly, usually the next day, to all of the directors of the company.

The distribution of these minutes to the members of the board of directors naturally does not constitute ratification of those minutes, but they know what is going on in advance.

Gould W. Van Derzee—By Respondents—Direct

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The five local directors in Milwaukee, including the four who constitute the executive committee, naturally have the very close view of the property. From the minutes that are made available to the other four directors they can ascertain and do ascertain what is going on. Ratification, if they are approved by the board of directors, occurs at one of the meetings which I referred to as occurring a minimum of four times a year.

I think in substance, and in conclusion on this important topic of what the executive committee really does, we can say that it does everything that a small board of directors, all of whom are very close to the business, most of whom work in it, could possibly do for the interests of the customers and others who put their money in the business.

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Q. In substance, you would say that the executive committee is in active charge of the management of the company?

A. That is true.

Mr. Browning: This is a good time to interrupt.

The Examiner: All right. We will recess until two o'clock this afternoon.

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(Whereupon, at 12:35 o'clock the hearing recessed, to reconvene at 2:00 p. m.)

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Gould W. Van Derzee—By Respondents—Direct

AFTERNOON SESSION

(Whereupon, at 2:00 o'clock p. m. the hearing reconvened.)

The Examiner: You may proceed.

Whereupon GOULD W. VAN DERZEE resumed the stand and testified further as follows:

4091 *Direct Examination by Mr. Browning (Continued):*

Q. Who are the general executive officers of Wisconsin Electric Power Company? A. The two general executive officers—that is, the officers whose duties extend over all the activities of the company are the president, Mr. Way, and the vice president and general manager, Mr. Van Derzee.

They exercise general supervision over all of the other officers of the business and over all phases of the business subject to the control of the Board of Directors and the Executive Committee.

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They have a great many things to do, naturally, that executive officers are supposed to do. Naturally, someone has to bring reports and ideas and suggestions to the Executive Committee and it is generally up to the general executive officers just enumerated to bring to the Executive Committee information under all of the topics of the agenda which I previously described at some length.

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In addition to that, these officers have to carry out the orders that are given the general executive officers by the Executive Committee.

They have to execute them in the field and in connection with such execution and with the other problems that confront the general executive officers they have a number of problems, a few of which I will relate.

It is advisable in any corporation to have a ready means of getting together all of the officers and department heads at stated intervals in order to discuss with them policies of the company that have been laid down by the Executive Committee and as important to get from the men more or less down the line the ideas that they have on how to run the business.

No one group of general executive officers or on the Executive Committee can hope to run a business successfully without that kind of consideration and cooperation with the men as far down the line as possible.

We have what is called a management staff meeting. The management staff has a membership consisting of the general executive officers, all the other officers of the company, all of the department heads of the company.

As I recollect it, a full meeting of that staff, which is held in the Board Room of the company around a long table, consists of about twenty-two to twenty-four persons.

In order to take up as little time as possible away from

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active work, we meet at 12:30 on the second and the last Wednesdays of each month. A sandwich and a piece of pie are served so that we don't have to go out to dinner.

About 1:00 o'clock the meeting of the business begins. I think it is well to picture the position of the general executive officers as in between the Executive Committee on one hand, which is above them, and the managements' staff, with

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Gould W. Van Derzee—By Respondents—Direct

which they meet at intervals which is, so to speak, below them, in corporate relationships only, and the flow of authority down from the Executive Committee through the general officers to the members of the staff.

There are, naturally, many meetings with the individual members of the managements' staff daily, but these meetings of which I speak are policy meetings, designed to get everybody uniformly behind an idea and to dig up ideas from the group that the general executive officers may wish to put into practice.

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Several days before a meeting of the managements' staff is scheduled, a notice is sent out by a secretary of this meeting to all the members of the staff, asking them to contribute articles of information, detail matters that they wish to have brought up at the meeting, and otherwise express themselves in writing so as to facilitate an orderly discussion of what is to come before the meeting.

The secretary takes this information, puts it together in
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what are called news notes. Ordinarily, you might call them agenda except they aren't compiled like an agenda is compiled. They are a collection of ideas such as I have described.

I want to tell you just a little bit about a sample meeting because I think it is important that you know how this local group of officers and department heads really functions, the things they talk about.

You can judge something of the earnestness of those who are carrying on the business by not only the things they do, but the things they talk about.

One of the first things that usually appears in the news notes relates to employment matters. To be specific, in the

Gould W. Van Derzee—By Respondents—Direct

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news notes of August 14, we find such things as these enumerated, and this was prepared by the men who have charge of the employment activities.

The news notes show that monthly survey conducted by the public employment office indicates 42,000 persons employed as of August 1 this year, compared with 41,000—I am giving round figures—last year.

Now, that is of information to us for the specific group this employment covers, because it indicates the ups and downs of industry.

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Q. Employed by whom, Mr. Van Derzee? A. I think I mentioned that.

(Discussion off the record.)

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A. I mentioned that this referred to the specific group but I did not state that it was a group of forty or more manufacturers who contributed information monthly to the general employment office.

We have detail which shows the particular industries in which there are increases and those in which there are decreases. Those things have some significance to people around the table. We report the number of new registrations for unemployment benefit claims to indicate the status of employment in the district, and then we have our own employment record which shows the number of employees entering the company by departments for the month, the number who left.

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Department heads are called upon to describe the reasons for unusual departures from normal employment in any de-

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Gould, W. Van Derzee—By Respondents—Direct

partment and I think this morning I mentioned the employment of a number of students.

It so happens that in these news notes which I am describing of August 14, this particular department, the electric distribution department, had forty-two placements, of which thirty-eight are temporary, and those were the students that I was talking about this morning.

There is only one left. The reasons for terminations, discharges, if any, are given, and they are usually discussed.

4103

We then have a record of the employees entering and leaving the services of The Milwaukee Electric Railway and Transport Company and I didn't say before but should have

—1,843—

said that this managements' staff meeting is a meeting of all of the officers and department heads of both Wisconsin Electric Power Company and The Milwaukee Electric Railway and Transport Company.

4104

Q. Does it include department heads of any other company? A. It doesn't regularly include department heads of other companies primarily because of the distance, but we have other inter-company meetings from time to time which take the place of those.

The operations of these two companies are extremely intimately involved and when the separation was made from a corporate standpoint in October, 1938, whereby the transportation activities are transferred to so-called Transport Company, we kept right on with the same meetings of all the people that were formerly the department heads and officers of the one company—that is, it is operated about the same as before, but has two names.

Gould W. Van Derzee—By Respondents—Direct

4105

I don't mean to say that there has been no change in the corporate offices—there have—but the fundamental principles that guide the company in operation are still the fundamental principles of operation for each company.

We have under this heading of employment also a record of employees that are transferred. If, for some reason, an employee must leave one of the company's departments, we try, through our central employment department which operates for both companies, to find a job for him in some other

—1,844— 4106

branch of our business.

If they have been trained in the business which we usually try to keep them in, it is foolish not to try to find a place for them elsewhere because they are better employees, as a rule, than getting someone on the outside who knows nothing about the business, so we pay particular attention to transferring employees from one department to another in preference to lay-offs and discharges.

We next come to something that is reported in each of these meetings—that is, the kilowatt hour output of Wisconsin-Michigan group of properties, and for Wisconsin Electric Power Company, alone.

4107

For example, for the two weeks ending August 3, 1940, the output of the system of Wisconsin Electric Power Company, alone, including the sales of dump steam power, which are very necessary for Wisconsin Michigan Power Company, were up 9 per cent., whereas, the corresponding figure for the entire system was 12½ per cent.

Q. By the entire system you mean to include Wisconsin Michigan Power Company and Wisconsin Gas & Electric

Company? A. That is right. Over what we call the service area.

Q. All right. A. Here appears in the news notes, probably contributed by the electric distribution department, the statement that the third from the last customer to use 25-cycle

—1,845—

service on the system was practically changed over to 60-cycle service leaving just two customers still taking 25-cycle service.

4109 Years ago we had 25-cycle service over a wide area. This third from the last customer happened to be the Cutler-Hammer Manufacturing Company.

The only customers that are now left, effective after this change, are service to the Chicago, North Shore & Milwaukee Railroad which operates an interurban line between Chicago and Milwaukee, and the Stratton Grain Elevator.

Inasmuch as we have a frequency changer at the First Street Sub-station, which can be used in the reverse from the old direction—that is, it can be used to generate 25-cycle service, running off the 60-cycle end, we do not have to run 4110 25-cycle generators at the Commerce Street Power Plant for this purpose except in cases of emergency.

Now, we come to that phase of the managements' staff meeting where a report from the purchasing agent comes up and the purchasing agent reports on the iron and steel market, the copper market, the gasoline market, the scrap market, and any other market that anyone is interested in, that the company may be particularly interested in.

Just about this time we had quite a spirited discussion on whether it was the time to sell several thousand tons of old steel rails which Wisconsin Electric Power Company had

accumulated incident to abandonment of interurban railway

—1,846—

operations, where it owned the rails and leased them to the Transport Company.

There is also a substantial amount of scrap of this type that accumulates from the operations of the Transport Company of its own rail facilities. We have to take out special work and replace it, take up sections of rails and replace them, so we always have considerable scrap on hand.

We get the advice of those who are presumed to know. 4112
We know the trend of the market generally. While we haven't sold this steel scrap, I am inclined that we won't keep it too long. Too many opportunities are lost trying to get the last nickel.

From Mr. Dornbrook, whose first name is Fred, we have a report on the Commerce Street new installation which gives a lot of things that probably aren't interesting to outsiders, but to the staff, it is interesting to know that 40 per cent. of the high-pressure piping from the boiler to the turbine is in, 25 per cent. of the feed water piping is installed, that air compressors are grouted in, and equipment for the new black-smith shop is installed. 4113

We have to have facilities adjacent to these modern power plants to take care of breakdowns and give prompt service to our customers and are putting in modern equipment for that purpose in connection with the large installation at Commerce Street consisting of a 35,000 kilowatt extraction turbine.

—1,847—

Here follows Mr. Dornbrook's discussion of the East Wells Street high-pressure plant and he brings to our atten-

4114

Gould W. Van Derzee—By Respondents—Direct

tion certain trouble that he has had taking down the rotor of the 13,700 kilowatt machine. How soon he expects to get it back in, those things are of interest not only to the management, but they are of interest to the sales department in knowing that the steam heating system will start efficiently at a certain time, that adequate capacity will be available, particularly in these times when we have a 30,000 kilowatt machine out of service at the Lakeside Plant due to a burned out rotor, and we are also having the annual or semi-annual overhauling of the Port Washington plant which means that another 80,000 kilowatt unit is out. So it becomes important to have everybody know the status of all of the operating machines.

4115

We discuss the coal stock. Whereas the average householder deals in five, ten or twenty tons of coal, we have to deal in great quantities of coal, running up into hundreds of thousands of tons, and this particular discussion of the coal stock this week related to how many tons of coal we had had delivered on our contracts that we expected to get in before the price increase took effect under the government control.

4116

Now, comes Mr. Coffin, with a discussion of sales matters in which everyone is interested. He talks about the thirty large industrial customers that I mentioned to you this morning and what he sees in the information on that group.

—1,848—

He indicates that eight large steel foundries show a material increase over the preceding week and wonders if that is the start of a little boom in Milwaukee, because foundries are known to start up first.

Milwaukee is one of the great electric steel centers of this country, and that is true because when there weren't any

Gould W. Van Derzee—By Respondents—Direct

4117

adequate usable steel furnaces, our company built some of the first ones, and by cooperative measures got the foundries to use electricity for the melting of steel and the effect of that is now shown in the large sales of kilowatt hours through this source.

I want to elaborate on that a little later when we talk about a certain affiliate that we have, known as the Hevi-Duty Electric Company which picked up that job and started the design and building of other types of current-consuming devices, electric furnaces primarily, that we couldn't get large manufacturers to build and guarantee at the time we went into that business.

4118

Sometimes, in these new notes, we talk about individual companies and when a large company like the A. O. Smith Company, which is one of our largest customers, shuts down for a day or two for inventory, that is a couple of days loss of a lot of kilowatt hours and the sales manager is probably reporting that so we will know, if we see a little dent, what that is.

He puts in also information about the fact that some of

—1,849—

4119

our customers have received orders. He has heard that the A. O. Smith Company has received a large order for pipe. That is prospective business being put away in our mind to sell kilowatt hours for.

Just as an interesting sidelight, and I know I am rambling a good deal on this to give you a broad picture of the business, this little Hevi-Duty Electric Company built the world's largest electric furnace at the request of the A. O. Smith Corporation with a capacity of 6,000 kilowatts on one connection of the windings and 12,000 on another.

4120

Gould W. Van Derzee—By Respondents—Direct

That one furnace at that time, when operating regularly, twenty-four hours a day, was capable of using as many kilowatt hours as all of the residence customers in the City of Milwaukee.

4121

There is a report here that anticipating increased business, Milwaukee foundries were contemplating increasing their plants and since then we have found out that Milwaukee will probably receive quite a substantial amount of preparedness business that will require considerable electricity, and that our foresight, if you can call it that, in deciding to put in Port Washington No. 2 prior to the time that we could see actually the complete method of financing, probably was justified.

Then follows descriptions by Mr. Coffin, our sales manager, of various new jobs of electric power installations, and he concludes by giving a comparison to the staff of the record of sales appliances from January 1 to the end of the previous month.

—1,850—

4122

Just a few of them may be of interest to indicate that we are somewhat ahead of last year in some important items. Electric ranges, 1,732 compared with 1,523 last year. The quota on electric ranges for the year is 3,500 and we expect to meet it because we sell more of them at the end of the year than in the summer.

Electric water heaters, 799 compared with 568. Our quota is 1,500. We may have difficulty in meeting that. We are putting on extra pressure.

Refrigerators—that is, sales just off of our own floor and we don't attempt to do but a very small part of the business —955 compared with 785/

Gould W. Van Derzee—By Respondents—Direct

4123

Roasters and casseroles, 1,209 compared with 718. The roaster, as I think was intimated this morning, is one of the devices which introduces electric cooking to the home. It is an extremely interesting device to almost any woman that has tried it and I believe that in the City of Milwaukee, somewhere between, I would say, a third and a half of the customers have them, if not more.

(Discussion off the record.)

A. Better sight lamps, 2,198 compared with 2,112. That shows a decrease in the company's sales of better sight lamps. The reason is that we don't have to put the emphasis on those things because they are off-the-shelf articles. You can buy them in hundreds of outlets and we much prefer to have other people do our selling for us on things that they push.

4124

—1,851—

Now, from the head of the plant engineering department, we have a report on the work he is doing underpinning the foundations of the Public Service Building, installing some new equipment in Ann's Electric Grill in our building, work on installation of air-conditioning systems of which we are putting in two in the building this year, and reports on his part of the building construction work as distinguished from the machinery at the Commerce Street Power Plant and at the other points on the system.

4125

He reports that the steel structure for the 28th Street Sub-station is up, and the progress on the 96th Street Sub-station, that the new bus storage building addition at the Fiebrantz Avenue car station in progressing in accordance with the schedule. There is a case where Mr. Lubert, who has

4126

Gould W. Van Derzee—By Respondents—Direct

this plant engineering department, does building drafting for the building requirements of the Transport Company and makes it unnecessary to have the duplicate organization that might otherwise be required.

He reports on the Lisbon Avenue Sub-station, a small sub-station out near the limits of Milwaukee County where the load has grown so rapidly that we have to put in additional feeders and that requires additional buildings.

4127

Here is a report from the department head of the Transport Company, Mr. Archambault. Mr. Archambault is engineer of Way and Structures and he has charge of installa-

—1,852—

tion of tracks, road-beds. Maintenance and construction of the signal system is under his direction, and all of this track that is being removed on the abandonment of railway operations is taken care of and disposed of as scrap.

4128

He reports on various work he is doing and most important of the items is probably the installation of the duplicate overhead trolley required for trolley buses. That is a Transport Company operation. They buy the new trolley buses; they construct the overhead trolley as well as constructing, operating and maintaining the regular street car operation.

We haven't said a great deal about trolley buses. I think we have a place to say that a little later. It is a very interesting modern development of transportation in metropolitan centers.

Mr. Archambault of the Transport Company reports that he is just constructing a turn-out and track facility necessary in the disposal of ashes at the electric company's Lake-

Gould W. Van Derzee—By Respondents—Direct

4129

side Power plant. Not being in the business of putting down tracks, obviously we go to the best place to have that work done and that is our affiliate transport company.

Then follows a discussion of the abandonment of the Oconomowoc-Watertown line. That is a stretch of about eleven miles of track that the Public Service Commission has permitted us to abandon on showing that it could not be maintained economically and in the public interest.

—1,853—

4130

Our assistant treasurer and controller, Mr. Bohl, reports on passenger revenues by various divisions of the system, electric service revenues, ~~the~~ combined increase in electric service and passenger revenues which is a hangover from the time that we had the one company, but it is still just as interesting to us as if the companies were together as of old, because the Transport Company is a direct subsidiary and, finally, these particular news notes which are not as complete as some, wind up with a discussion of two or three large delinquent service accounts.

Usually that brings up various questions of why they are delinquent, what the chances of getting the money are, extent of the pressure that we ought to put upon the collection of such accounts with due regard for the interests of our company and possible continuance or non-continuance of the delinquent.

4131

And so these meetings go. Next time, probably, quite a different set of things will come before the general executive officers and the staff and these minutes do not pretend to record everything that occurs, but we get a great deal of advantage out of these meetings and carry many things

4132

Gould W. Van Derzee—By Respondents—Direct

from these meetings to the Executive Committee and actually carry out many things that we don't have to go to the Executive Committee for permission to carry out.

When I say, "we," I mean the general executive officers

—1,854—

who get the great benefit from these meetings.

4133

All of that discussion was around the subject of the management of staff meetings. I was in the process of telling you just what officers of the company do—that is, the general executive officers.

It seems to me that I have covered a great many things because it is the general executive officers that have to bring this wide range of subjects before the Executive Committee and in merely reciting the things that come up in the management staff meeting you have got some picture of the things that are of interest to the general executive officers and indicate, incidentally, some of their duties in connection therewith. But we have some other duties and I will endeavor to go through those without too great detail.

4134

We have many relations with municipalities and regulatory commissions which have been discussed somewhat before. We have to take the original action on these things. We have to decide just what we are going to do about answering an extensive rate complaint if we have one.

It is up to the general executive officers to receive all of these applications to commissions that are prepared by others in the company, approve the final form of them and sign them. When the orders come in, they come to the general executive officers as a rule, at least finally, and we have

to initiate placing those in effect where the initiation involves matters of company policy.

—1,855—

It was up to the general executive officers in January, 1938, when the new classification of accounts was adopted by the Public Service Commission, to decide what the company was going to do about the matter of depreciation.

The orders that came out, as I recollect it, said that straight-line depreciation would be the order of the day unless within thirty days the company presents to the Commission a statement of the type and method of depreciation that it considers the best for its own operations.

4136

We had to conclude, as we did in our case, that sinking fund depreciation with a $3\frac{1}{2}$ per cent. interest charge on reserve balances was the proper thing in order to have continuity in the form of depreciation methods which had been employed for many years and by order of the Public Service Commission of Wisconsin.

That proceeding involved hearings before the Public Service Commission, many informal conferences, preparation of very substantial amounts of information for the Commission; before the Commission was willing to issue the order, which finally came down and which I referred to this morning.

4137

The general executive officers are responsible for initiating, with the assistance of power plant advisors, plans for installing additional capacity and it is their views on these matters that are brought before the Executive Committee in the particular instance which resulted in the approval

—1,856—

of the Executive Committee for Port Washington No. 2.

4138

Gould W. Van Derzee—By Respondents—Direct

We are confronted from time to time with determining matters of policy with respect to rules that are initiated by the Public Service Commission and these matters are usually handled by people under the direction of the general executive officers who are familiar with matters of that kind.

4139

In considering our relations with municipalities, we have many types of contacts that necessitate action by the general executive officers. These relate to decisions of the Executive Committee on matters which are brought before them under the heading of "Municipal Matters" at the executive meetings, and many other actions that do not come before them, included among which are decisions on changing types of street lighting in a municipality, removal of poles at the request of the community, either because they want the poles off the streets or in the alleys or underground or because they are paving or for some other reason.

4140

Also there are questions of zoning which come before the general executive officers which arise in connection with municipal matters. The general executive officers have their hands full on policy matters relating to taxes. There are just about as many problems that come up on the tax situation as you can think of.

Our largest problem is when the State sends us a little

—1,857—

rote sometime late in the spring, that we have had a temporary assessment of very many millions of dollars on our property, or that the general state rate has gone up so much, that the tax bill will be of the order of several million dollars. It is up to the general executive officers to arrange for proper representation and the policy which will guide

our representation in the hearing before the State Tax Department on the amount of the assessment.

There are many problems that call for a decision of general executive officers in connection with Federal Income Taxes and State Income Taxes. Sometimes these are matters which involve a decision on "shall we pay several hundred thousand dollars in the settlement of back taxes or shall we proceed for review before higher authority."

They are matters that require insight into the business, judgment. We get all the advice we can on these matters. The other officers of the company are expert in tax matters. We call on them. But in telling about the general executive officers, I am doing this—I want to say reluctantly—because everyone recognizes that the general executive officers don't do everything.

4142

We have many other officers whose duties will be described later. I want you to know that we give all due credit to the very fine staff that we have, and that this is just section 1 of the description of what officers do.

—1,858—

4143

In addition to ad valorem and Federal Income and State Income Taxes, we have some dozen other taxes on various operations of the company, without the horde of indirect taxes on which occasional matters of policy arise.

I have mentioned just indirectly the question of labor and have a good many problems of general executive officers that relate to the matter of labor. These officers review all of the contracts which are the results of preliminary negotiations by our labor representatives and those of the unions, and really have to finally pass on whether the company is willing

4144

Gould W. Van Derzee—By Respondents—Direct

to do certain things and can do them, or whether it is better to take some other course.

I don't mean by "some other course," one that leads to discontinuance of service, but some other review of the situation. It so happens that the general manager of the company is named in the labor agreements as the "Court of Last Appeal" on grievances prior to arbitration.

4145

It is quite natural, then, that we should look at these major items of policy very carefully in the light of our experience, what is fair to the men, and that we shouldn't be precipitous.

I would rather discuss the matter of labor relations a little more fully under the next subject which, is what the general executive officers have to do with employee relations. I think that it can be said very definitely that not only the general executive officers, but all the other officers of the

—1,859—

4146

company appreciate the great importance that proper relationship plays between the company and its employees, and that these relationships be maintained at the very highest possible level.

Poor employee relationships mean internal discord and can very rapidly reflect in poor public relations. We endeavor, through the medium of the management's staff, to instill into officers and department heads at least what we see about the importance of employee relations and the proper dealing with labor.

We can not overemphasize how important we think that is. Probably all of this heads up in the general subject of Wages and Hours, working conditions, vacation and sick

leave, extra compensation for additional effort, proper recognition of men personally who do a good job as distinguished from just giving them a little raise, and our consideration of these problems has caused us to think about two very important things.

One of these is job specifications, the other is employee rating. We are endeavoring to find the very best way of rating an employee. We would like to know what all his capabilities are.

We have, of course, a rather complete history of each one, but we wish to go further and to keep an unobjectionable record of the important, good things that the employee does and also a record of the various things in which he is not so proficient.

4148

—1,860—

It is possible to find a job for almost any type of intellect, if you know just what that person is capable of doing. Our thinking, so far, has developed a rather temporary form of ~~report~~ which is designed to include all of the important things that I have mentioned.

It is also designed to provide a review at least once a year of everybody in the company by his immediate supervisor and by the department head, and we think that before any final records or notations are put away on John Smith's card, that this should be done with the full approval of the department head working with the man who has worked with John, so that either because of favoritism or bias, the department head will act as a brake on any entries that might in any way react to the disadvantage of John Smith in the years to come when his immediate supervisor or even the department head is not there to review it.

4149

4150

Gould W. Van Derzee—By Respondents—Direct

Now, we expect to develop a record on these cards as time goes along which may read something like this:

"John is pretty good in this job, but he seems to have a natural inclination for detail work in the record department;" or "John seems to be wonderful material for some executive position some day;" or any one of a number of different statements of that type.

4151

It may be a long time before we can get him a position in the record department or he may become an executive, but if we can get the composite judgment of all the people that

—1,861—

worked with him down through the years and then an executive position opens up by the death of some one, that has to be filled promptly, we don't get a situation where somebody sits down and says, "This fellow ought to be all right to fill that job, I have known him a long time"; somebody else says, "No, he won't do at all; he hasn't the right color hair for that job."

4152

What we want is to be able to turn to these cards and find that experience has said that when an executive position for John Smith opens up, John is the man and we don't have to waste any time because we know the judgment is good. That is just an example of what we have been working on for a year or so in trying to get this system going.

It is a long way from perfect, but it is one of the very important things, I think, in employee relations. I think, if a man way down in a menial position—not menial because of the character of the work, but because of, say, the very low pay that he has—thinks that once a year somebody takes a look at him and puts down on a card what they

think of him, and he has confidence that what is on that card is a fair mirror of himself, he is going to be a lot better employee. He is going to think he has a place some day higher up in the company.

I know I would feel that way if I were the employee.

Then we come to the second thing that we want to do that I think has a great bearing on employee relations, and that is job specifications, and we have gone a good deal

—1,862—

further with that than we have with the other matter.

4154

What does an employee do? I doubt if any department head could sit down and tell exactly what every one of his employees does, and when you put the problem up to the employee, he sometimes is put to it to tell you everything that he does, and it is not peculiar to those employees.

It is right here with the general executive officer as you may have observed in my difficulties in telling you what I do. But in this matter of job specifications, we have a committee consisting of rather disinterested people representative of the educational department, another representative of the research department, a representative of the department in which the man to be rated comes from.

4155

The first thing that is done in the case of John Doe who wants to be rated, is that he is given a form to fill out in his own words, exactly everything that he does, and then presumably everything is down that he does do, but we find that it is necessary to add our own knowledge of what he does because he is not always complete in his own specifications.

The process of job specifications from that point on is to evaluate all of the different components of this particular

4156

Gould W. Van Derzee—By Respondents—Direct

job and perhaps I shouldn't get John Doe too closely related to the job specification because it is carried out more or less independently of John Doe as far as the job specification is concerned:

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4157

It is when we want to rate the man who thinks he is working under that specification that we have him put down his individual characteristics, and it is from his statements of what he thinks he does and what the department head says are the characteristics of the job, that we then proceed to evaluate these various operations and there are a great number of them.

4158

They go over the full field of manual work, psychological requirements, sales ability, tact—forty or more of those different characteristics—and we say, "If this man has a job that requires considerable perception and quickness, that that is rated at so much; if it requires certain dexterity and agility of fingers, that is a matter that is rated in so many points; if he has to meet customers, and it is hard to get people to do this particular job, the ability to satisfactorily meet customers is given a certain rating," and so on down until we have rated and appraised each of the different items.

The problem is to apply a value to the accumulated points that we have given to him so as to get a salary in dollars and cents, and this rating per point has been determined by breaking down a known job which is relatively easy to analyze, and where we know that the pay is right up to market, and determining from that what the value is of similar points in the specifications for a different job.

—1,864—

Well, without trying to give you all the details, I can say that one of our unions—we have four of them—thought this was so good that they stole the idea with our full permission and wrote an article on it in their monthly magazine, of how they were going to answer complaints about people who think they are not rated correctly in the future, and we have done quite a little work along those lines.

I believe that it will take a lot of guessing out of the determination of the proper salaries for certain work. It should have a very profound effect on the satisfaction of the employee with his final rating.

4160

After all, the employee doesn't have to stay where he is rated, he can pull himself up by his own efforts, and our philosophy is that it is not the proper thing to do to raise wages generally so as to cover the complaint of a dissatisfied minority, because the increase extends over the whole company.

It is better to try to reason with those men, that for the work they are doing, they are getting a proper wage scale, and that it lies within themselves to study, to look for opportunities and to get better pay by qualifying themselves to get that pay.

4161

The general executive officers have something to do with public relations. Public relations are probably everybody's job. Not to spend too much time on that subject, but yet to

—1,865—

indicate the great importance that all of the officers think it plays in our business, I would say that we realize that perhaps first and foremost, it is necessary for the companies to give good service at proper rates; reasonable rates they must be.

4162

Gould W. Van Derzee—By Respondents—Direct

It has been said that the customer, if he has good service that is continuous and no outages, and that he pays reasonable sums for it, really isn't very much interested in the general problems of the company as to how we got that way. But I don't think that we can assume that the furthering of public relations stops with giving good service at reasonable rates.

4163

We could do that and we would have bad public relations if we said to Community Fund, "No, we are not interested in that aspect; we are giving good service at reasonable rates. That is all the public can expect."

We would not be furthering good public relations by merely giving good service at reasonable rates if we said to the committee which annually comes to us in connection with the mid-summer festival, "No, that just costs us money; we have to put on a lot of street cars and everybody uses a pass anyway, so we don't get any money out of that." We can't say that and have good public relations even though we give good service at reasonable rates.

4164

The point is that we have to do a lot of things, some of which are time-consuming, some of which are reasonably expensive, some of which we may feel we could possibly get

—1,866—

along without. But it is a part of the job of all industry to take its reasonable share in the community in doing these things that the general public likes to see done and that have to be done by somebody.

When I say that general executive officers, within the limits of their capacity, appreciate fully the importance of public relations, we think in terms of all of these matters that I have just discussed with you.

The general executive officers of the company are responsible for building up the supervisory staffs of the other officers under them. Only as they succeed in doing that will their jobs be lighter and the service better. No one man or group of men and no general executive officers can hope to do all the detail work that goes on in a large corporation. That is one of the most short-sighted policies that the executive officers could adopt would be to unnecessarily skimp on people who are really able to do things, who work for them.

We believe that positions should be adequately manned; we believe in hard work; we do work hard. I think we have a very good and loyal staff. 4166

In connection with a statement concerning this staff, you will find that they stick with us. Our record will show that there have been very good accomplishments and I believe that under the guidance of Mr. Way, who has remarkable insight into men, that we have succeeded in getting, building up,

—1,867—

an executive and supervisory staff that has helped solve a lot of our problems, and if those men are good, they pass on that quality down through the line as far as you go. 4167

That is the job that we tell them they must do.

Getting to more prosaic subjects as to what the general executive officers do, we come to the question of purchasing, and while the detailed purchases of materials and supplies are not reviewed except as they are a component part of an approved budget, we do go over the purchases of coal, wire, machinery, and many other things.

I, personally, sign contracts after they have been executed by the department heads and officers doing the work. For example, just before leaving, one of the items required

4168

Gould W. Van Derzee—By Respondents—Direct

for Port Washington No. 2, which we thought we ought to get early and put in even in advance of the plant, were two traveling screens.

The plant will not be up for two or three years, but the officers in the power plant department said, "Why not buy these now since we are committed to it. They are cheaper now and we can put them in and we will have a better area for flow of water through the screens than we have now, when, sometimes, things back up or get trash on the racks, or sometimes thousands of fish come in."

4169

If you have a limited screen area, it is just the more difficult to keep the fish off, although now we have somewhat

—1,868—

automatic means of doing that. I have seen fish on the floor of the condenser room knee deep when at certain times of the years these hordes of fish come in the intake, through the trash racks and up on to the screens to the point where if we hadn't been able to use emergency methods to get these fish off, the plant would have had to shut down.

4170

It was then we had to devise these semi-automatic methods of removing fish. So you see we get into a lot of strange things in this business.

The general executive officers have much to do with construction and development. I think I could talk—but will not—for two hours, on the many contributions that our president has made in his diligent search for improvements in the art of electric generation and transmission, and even in the field of street railway operations, the stories are most interesting.

I know that he wouldn't take full credit for them. He would say, as he usually does, that the boys down the line

Gould W. Van Derzee—By Respondents—Direct.

4171

got the ideas and he just helped along with the fortitude, because it does take fortitude to do as he did in 1920—spend millions of dollars to put in powdered fuel in the first installation in the world, when all the technical societies were stating that it couldn't be done.

I remember, of my own knowledge, that two years after that plant was in and operating with remarkable efficiency, the engineering societies were still debating that it wouldn't

—1,869—

4172

work.

Then he invented the articulated train process of taking two whole street cars that looked pretty bad, remodeling them and putting a single truck under two of them and a vestibule connecting so that they would carry large numbers of people in the rush hours.

He has been instrumental, together with the officers, in developing a good many splendid ideas and I merely mention a few and very briefly in order to say something on this important topic of what the general executive officers do in the way of construction and development of the business, and it is really more far-reaching than our own business because I ask you to consider how many utilities in the country now use powdered fuel as a result of our early experiments and developments, what the millions of dollars of saving have been to customers in this country.

4173

The subject of financial matters, which have to be handled by the general executive officers, is a week-end topic and I think, perhaps, it would be best to say just at the moment that the general executive officers naturally have to be very busy on questions of finance, irrespective of how much help

4174

"Gould W. Van Derzee—By Respondents—Direct

they get from North American Company, which they do.

We have pretty well covered, I think, the things that Mr. Schmidtman has told you about promotion of our business and in my brief comments on the same subject this morning, what we are striving for in the way of increasing

—1,870—

the business.

4175

Undoubtedly he has told you about our experiments to make the general public conscious of the existence of electric service, by the free electricity offer that we had in 1934, and I believe in 1935.

Being very close to that and hearing about the same relation to it that Mr. Way did powdered fuel, I looked a good deal askance at advertising that customers could use all the electricity that they wanted in certain months following the month of March for the amount that they paid in the month of March:

4176

We got some very remarkable responses, but everybody knew about electricity when we got through, and we made money, and we accomplished a separation, an increase, in the use of electric service by residences, compared with that of previous years, which was quite noticeable—that is, in a nest of curves which showed the gradual increase from year to year up to 1934. When this was put in, there was a permanent hike in the thing. One lady told me that she had an electric roaster and she was heating the baby's bath water in it and bathing him in it.

I heard of an ingenious gentleman who got coils of copper wire and wound it around the gas water heater and then proceeded to heat the water with electricity that normally should have been heated by gas.

—1,871—

Gould W. Van Derzee—By Respondents—Direct

4177

Those things aren't said to indicate practices that we approve of or to represent the purposes of this experiment, but more to indicate to you that the extent to which people gathered the idea that there was a company selling electricity in Milwaukee was tremendous.

Then we followed with the ten-for-one plan, which Mr. Schmidtman probably described, and are continuing to get, I think, remarkable results.

The most remarkable thing about it is that this plan so operates, as he told you, namely, you can get 100 per cent. increase in the use of service for a 10 per cent. increase in the bill. While you are getting that saving in electrical energy for a period of four or five years, if you don't increase your use after the first rise, you are helping to pay the instalments on the piece of apparatus because of the increase in the use of service through this saving in electricity, and the dealers are very enthusiastic about it.

4178

While it has been extended on a year-to-year basis and expires, I think, by limitation in July, 1941, we wouldn't dare not go out to the Commission and say we want to extend this thing and we wouldn't wish to go out and ask them not to extend it.

4179

There were 118,000 people in the month of August that used 25 per cent. more kilowatt hours than they did in the preceding August under this plan. On the increased energy, we received an average rate per kilowatt hour of 1.44 cents.

—1,872—

I think I am prepared to drop the general executive officers.

4180

Gould W. Van Derzee—By Respondents—Direct

Mr. Browning: Could we have a short recess?

The Examiner: Yes.

(Whereupon a short recess was taken.)

—1,873—

By Mr. Browning:

4181

Q. Now, will you describe for us the operating staff of Wisconsin Electric Power Company? A. One of the principal officers who reports to the general executive officers is Mr. G. G. Post, Vice-President in charge of power. Mr. Post resides in Milwaukee. He is 58 years old and has had 34 years of service with the company. I remember George when I arrived at the University of Wisconsin as a freshman. He was an instructor and he lived at Madison at the time, and my belief is he has lived his entire life in the State.

He is responsible for the power plant electric distribution and plant engineering departments which I shall attempt to describe briefly in a few moments.

4182

Mr. Post entered service as an electrical engineer assistant in 1906. Previous to that time his residence was in Madison where he was an instructor in the State university. He was elected to his present office on December 16, 1929.

Mr. Post is a very high grade engineer and he is active in national and local engineering circles. Under his direction are 1,436 employees. His immediate technical assistant is Mr. Carl P. John. Mr. John's place of residence is Milwaukee. He is a man 40 years old and has had 13 years of service with the company.

Mr. John does a great deal of work in connection with

—1,874—

Gould W. Van Derzee—By Respondents—Direct

4183

preparing preliminary reports on the advisability of going ahead with different types of power plants and generally assists Mr. Post in technical matters.

One of the principal departments under Mr. Post is the electrical distribution department and at the head of that department, which has 735 employees, is Mr. W. E. Gundlach who has the title of Chief Electrical Engineer. Mr. Gundlach lives in Whitefish Bay, a close-in suburb of Milwaukee. He is 53 years old and he has been with the company for 30 years.

4184

As Chief Electrical Engineer he is in charge of construction, operating engineering and testing divisions. Mr. Gundlach entered the services of the company in 1910 as a draftsman. He was previously engaged in attending the University of Missouri. He assumed his present duties on November 1, 1939.

There are five principal divisions of the electrical distribution department under Mr. Gundlach and the first of these is the construction division which has 303 employees and is headed by Mr. F. E. Wilterding, Superintendent of Construction.

4185

Mr. Wilterding's division has charge of construction, maintenance, and so-called installation. The construction work relates primarily to the overhead and underground lines, rural sub-stations having a capacity of less than 1,500 k. v. a., meter installations and customer sub-stations.

The most typical type of a customer sub-station is one

—1,875—

of a large customer buying primary power under which rate the customer provides his own transformer facilities.

4186

Gould W. Van Derzee—By Respondents—Direct

Mr. Wilterding also has supervision over a stores division of the electrical distribution department. The second largest division under Mr. Gundlach is known as the operating division with 282 employees under the directions of Mr. O. M. Ward, who has the title of Superintendent of Operations.

Mr. Ward lives in Milwaukee. He is age 55, and he has had 23 years of service with the company. I happen to know that he is a graduate of the University of Illinois.

4187

This division under Mr. Ward has charge of the load dispatchers, station operation, electrical trouble service and local agents. He also has charge of station construction covering sub-stations having a capacity in excess of 1,500 k. v. a., and he has charge of the construction work for the electrical end of power plants. It is also his duty to operate the record department of the electrical distribution department.

Mr. Ward is a very fine man in this field. He knows the whole subject extremely intimately and he is a very industrious worker day or night. In case of trouble you will always find him out in the field.

4188

The third division of the electrical distribution department is the engineering division under Mr. C. D. Brown, Electrical Engineer.

Mr. Brown lives in Wauwatosa, which is another so-called close-in suburb of Milwaukee. Mr. Brown is 53 years old and has had 24 years of service with the company.

Mr. Brown's division passes on a great many highly technical problems. He has to do with system planning, transmission and distribution engineering, overhead and

underground station engineering, electrolysis surveys.

The fourth division of the electrical distribution department is known as the electrical testing division with 66 employees under Mr. J. E. Miller, General Foreman. In this division is done all testing of meters on customers' premises and in stations. I would like to record that the electrolysis work is done under Mr. Miller and not under Mr. Brown as previously stated.

The fifth and smallest division of the electrical distribution department is the general office division with 27 employees under Mr. W. S. Wilder, and he has the position of Technical Assistant. 4190

Mr. Wilder lives in Whitefish Bay. He is a graduate of the University of Wisconsin, 44 years old, and he, also, is a veteran in the service, having been with us 21 years.

I will describe a little later the veteran's organization, qualifications for which are 20 years of continuous service with the company.

The other major department under Mr. Post's direction is the power plant department which has 606 employees, exclusive of Mr. Fred Dornbrook, Chief Engineer of Power Plants. 4191

—1,877—

Mr. Dornbrook is a genius, if that term can be applied to power plant operation. He is responsible for the operation, maintenance construction and design of power plants and the heating division. He has been with the company 39 years and his age is 59, and he also is a local resident of another very close suburb which abuts Milwaukee, called Shorewood.

Engineers from all over the country consult Mr. Dornbrook on power plant matters, and he is probably the best example of a man with a very meager education who has risen

4192

Gould W. Van Derzee—By Respondents—Direct

to tops in his profession. Mr. Dornbrook never had the advantage of a technical education, but he went to work relatively young with the company and has come up through all of the power plants and has had a great deal to do with the successful development of high pressure steam.

4193

He is a man who seems with respect to turbines to have almost the intuition of a woman with respect to certain things. Mr. Dornbrook will look at a turbine, listen to it, put his hand on it, and tell you just about what is the matter on the inside if there is anything the matter. Altogether, he is one of the very remarkable power plant engineers and has much to do with the very fine record of continuous operation which our companies have in the rendering of service and in the efficiency with which the kilowatt hours are generated.

Under Mr. Dornbrook are two Assistant Chief Engineers:

—1878—

4194

Mr. J. G. Lawrenz and Mr. M. C. Drewry. Mr. Lawrenz lives in Milwaukee and his age is 46. He has been with the company some 23 years. In addition to assisting Mr. Dornbrook in certain technical matters, he has charge of the general office of the power plant department.

Mr. Drewry also lives in Milwaukee. He is age 40 and has been with the company some 16 years. Mr. Drewry, under Mr. Dornbrook, handles more of the practical operating problems, as an assistant to Mr. Dornbrook, as compared with the problems which Mr. Lawrenz handles. Mr. Drewry in his own right is a national authority on treatment of water in boilers. He has given many papers before technical societies and many times companies have come to us for information with respect to his achievements in preventing the deterioration of pipes in high pressure boilers. That is a

Gould W. Van Derzee—By Respondents—Direct

4195

larger subject than it sounds like and much more important than would appear from the short time it has taken in telling about it.

Mr. Drewry has been in council with engineers of the other North American subsidiaries in connection with many matters, but directly in connection with feed water treatment.

Our largest power plant is the Lakeside Power Plant. It requires 182 employees in the power plant department to operate that plant. That number is exclusive of the number of electrical workers under Mr. Gundlach, reported on under the electrical distribution department, but the general opera-

4196

—1,879—

tion of the plant is in charge of the so-called Engineer in Charge, Mr. George Hummel.

Mr. Hummel lives in South Milwaukee, not far from the plant. His age is 58 and he has been in the service of the company 21 years.

George can almost look out the window and see if any smoke is coming out of the plant stack. That is one of the pains of existence of power plant operators, having people tell you that your stacks are smoking.

4197

The Port Washington Power Plant, of which you have heard, has 55 employees under Harry Shaver, Engineer in Charge. Again all of these numbers of employees which I indicate as being under the Engineer in Charge are exclusive of the electrical people who operate switchboards and who are under Mr. Gundlach.

Mr. Shaver lives in Port Washington, also in sight of the smoke stack of the plant. He is 54 years old and he has

4198

Gould W. Van Derzee—By Respondents—Direct

been with the company 10 years. Mr. Shaver, I recollect very well, is the man who had charge of the small municipal plant that was in operation when the company built the Port Washington plant, and incidentally, there it acquired the municipal distribution system and a small power plant in the city of Port Washington, and it is a fine tribute to Mr. Shaver that he could rise to the heights and become the Engineer in Charge of the world's most efficient power plant, from a very small municipal plant operation.

4199

—1,880—

It is a question of the man having it in him rather than any particular extensive training that he had.

Mr. Dornbrook also is a great developer of men to operate under. Much of the success of his various plants is due to telling the men what he knows and getting them to do it.

The Commerce Street Power Plant has 57 employees and is under the direction of Mr. Frank Leach as Engineer in Charge.

Mr. Leach lives in Elm Grove, another suburb of Milwaukee, not quite so close in. The age is 56 and length of service 28 years.

4200

The East Wells Street Power Plant has 21 employees and is under the direction of Mr. Thomas Franks, Engineer in Charge.

Mr. Frank's residence is in Milwaukee. His age is 60, and he has been with the company for 23 years.

That is the plant that is about to be changed to a much larger plant so that the duties of the Engineer in Charge will be materially increased and will undoubtedly fall upon the present engineer.

Gould W. Van Derzee—By Respondents—Direct

4201

The Stephenson Building Power Plant is a small plant used entirely for heating. It has 17 employees and is under the direction of Mr. Edward Hass.

Mr. Hass lives in Milwaukee. He is a man 52 years old and he has been with the company for 23 years.

We have at Racine a small power plant under the direction of Mr. H. H. Lueschke. There are 13 employees in this plant under Mr. Lueschke's direction. Mr. Lueschke is 48
—1,881—

years old and he also has been with the company for 23 years.

4202

In the power plant is a division called the equipment testing division, under Maurice Fitze, a Test Engineer. There are 10 employees in this division. Mr. Fitze lives at another suburb of Milwaukee called Hale's Corners on the rapid transit lines about 20 minutes from downtown. His age is 39 and he has been with the company for 16 years.

Construction and design division with 7 employees is under the direction of the Chief Designer, Mr. F. F. MacMillen.

Mr. MacMillen is 59 years old, has been with the company 8 years and lives in Milwaukee.

4203

The last division of the power plant department is the heating division with 31 employees under the general direction of Mr. Henry Warhanek as Superintendent of Heating.

Mr. Warhanek lives in Milwaukee, his age is 49 years, and Henry has reached the dividing point of 30 years, just mid-way between a regular veteran and a double veteran.

He has charge of the distribution system for heating as distinguished from the plant operation that supplies the steam for the heating system.

(Discussion off the record.)

4204

Gould W. Van Derzee—By Respondents—Direct

Q. Mr. Van Derzee, I think you omitted to mention the chemical and physical laboratory of the power plant department. A. That is true. The chemical and physical laboratory

—1,882—

with 5 employees is under Mr. W. O. Pflaum, Chief Chemist.

Mr. Pflaum is also a resident of Wauwatosa where he is very active in civic affairs. His age is 56, he has been with the company for 24 years.

4205

We have a large division called the maintenance division which is distinct from power plant operation but is under the direction of Mr. Fred Dornbrook. It is called the maintenance division and the head of that division is Mr. Henry Dornbrook. Mr. Henry Dornbrook's title is Master Mechanic.

Mr. Dornbrook lives in Shorewood, he is 59 years old and he has been with the company for some 37 years.

4206

It is a duty of the mechanical division to see that all the equipment is kept in state of repair which will give continuity of service. To that end, each of the major power plants has a well equipped machine shop so that in case of breakdown of minor pieces of equipment, repairs can be made promptly.

This division also affords a place where men who are employed on the heating system in the winter time can find work in summer time when most of the repairing is done by the maintenance division. Altogether, it is an extremely important division and it is headed by a very competent individual. Henry seems to be able to apply to the maintenance of power plants the same kind of genius that his brother Fred gives to power plant operation.

The third department under Mr. Post is the plant engi-

—1,883—

neering department which is headed by Mr. H. A. Luber, who has the title of Chief Architectural Engineer. Mr. Luber lives in Whitefish Bay, he is a man 47 years old and he has been with the company for 30 years. He is in charge of drafting, engineering, specifications, building maintenance, heating and ventilation of buildings and air conditioning.

Mr. Luber entered the service of the company on June 27, 1910 as an architectural draftsman. He was previously employed in Milwaukee in a local architect's office as a draftsman, so that Fred has lived most of his life in Milwaukee and spent nearly two-thirds of that working for the company.

4208

Under Mr. Luber is a small general office division of 6 employees and in his drafting office are employed 45 draftsmen and engineers who work on building, mechanical and electrical problems.

Under him is Mr. F. C. Schroeder, Building Engineer. Mr. Schroeder lives in Milwaukee, is 57 years old and has been with the company for 24 years.

4209

(Discussion off the record.)

There is a building maintenance division under Mr. E. A. Bolzendahl, the Building Superintendent.

Mr. Bolzendahl lives in Milwaukee, he is age 46 and he has had 25 years of service with the company. He has been employed in various capacities. He is a regular bull dog for work. He is usually found out in the field bossing a big

—1,884—

construction job like at Lakeside or Port Washington in respect to the building operations only.

4210

Gould W. Van Derzee—By Respondents—Direct

While we are glad to have him take up the work of preparing to defend this country, we are sorry to see Mr. Bolzendahl leave us shortly for anywhere from one to four years, he says, to be a Colonel in the U. S. Army.

Under Mr. E. W. May, a Mechanical Engineer, fall the problems of heating, ventilating and air conditioning on the properties of the company. Mr. May is relatively new but a very conscientious and competent individual with the company.

4211

His place of residence is Milwaukee. He is 41 years old and he has been with us for two years.

That ends the general description of the major divisions and sub-divisions of the departments constituting 1,436 employees under the direction of Mr. Post, Vice-President in Charge of Power.

The Examiner: We will recess until 10:00 o'clock tomorrow morning.

(Whereupon, at 4:30 o'clock p. m., the hearing was recessed until 10:00 o'clock a. m., Wednesday, September 25, 1940.)

4212

—1,885—

BEFORE THE

4213

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

4214

Hearing Room 609,
Securities and Exchange Commis-
sion Building,
Washington, D. C.,
Wednesday, September 25, 1940.

Met, pursuant to adjournment, at 10:00 o'clock a. m.

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

4215

S. PEARCE BROWNING, JR., and
CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48
Wall Street, New York City, Attorneys for the Respond-
ents.

HERMAN O'DELL,
MISS E. H. CALKINS, and
C. M. MAXWELL, attorneys on behalf of the Securities and
Exchange Commission.

4216

Gould W. Van Derzee—By Respondents—Direct

PROCEEDINGS

The Examiner: The hearing will come to order.

Whereupon, GOULD W. VAN DERZEE resumed the stand and testified further as follows:

Direct Examination by Mr. Browning (Continued):

4217 Q. At the close yesterday, Mr. Van Derzee, you had finished describing the departments in charge of Mr. Post who is vice president in charge of power. Will you now describe the departments under Mr. Coffin, vice president and sales manager? A. First, I would like to say with respect to Mr. Coffin that he is sixty years old, has been with the company for twenty-eight years.

He is a resident of the Village of Shorewood, which abuts the north limits of the City of Milwaukee.

4218 Mr. Coffin is in charge of the operations of the sales and the advertising departments. He is a graduate of the University of Illinois in electrical engineering. He worked his way through college and came with our company on January 15, 1912, as a draftsman.

He had previously had a position with the Commonwealth Edison Company in Chicago in a similar capacity. Mr. Coffin is quite active in the civic affairs of the community and he is really a powerful figure in good public relations that

—1,887—

our company enjoys.

One of his chief characteristics is his extremely kindly disposition and expression and everybody thinks very highly of him. I think he is the kind of man that you need in a sales and advertising department.

He has the facility of passing on down to his men his own personality. In Mr. Coffin's sales department are 209 employees. One of the very important divisions is the appliance service division headed by Mr. C. M. Berry, who is superintendent of appliance service.

Mr. Berry lives in Shorewood. He is 52 years old and he has been with the company thirty-four years. He is what you might describe as a never-tiring public servant. There is probably no one thing that the customer wants done faster than restoring something the matter with the appliances. If the refrigerator is out of service day or night and if it is an important job, Mr. Berry, himself, may be on the job. 4220

He naturally has various people who are scheduled to appear day or night for different kinds of appliance trouble. There are minor troubles which are handled by the trouble department of the company, which is different from what we call the appliance service department.

When we placed Mr. Berry's activities under the sales department years ago, we did it because we thought that no one could have a better understanding of the problem of the

—I,888—

4221

customer and his servicing needs than the management of the department that sells the customer the appliances and service.

In the sales department there is a small general office division headed by Mr. Mackowski, assistant to the sales manager. Mr. Mackowski lives in Milwaukee, he is 46 years of age and he has been with the company for twenty-three years.

We have a home service bureau which is under the sales department with thirteen employees which is headed by Mrs.

4222

Gould W. Van Derzee—By Respondents—Direct

Vera Ellwood. Mrs. Ellwood has a position of Director of Home Service.

Mrs. Ellwood is 58 years of age. She has been with the company for fourteen years. She came to the company with a very fine background, home economics, the University of Wisconsin, and teaching experience in the extension division and vocational schools in matters relating to home furnishings. I think that Mrs. Ellwood probably knows more women in the City of Milwaukee in all the various strata, probably, than any other one person.

4223

She is one who can gain the confidence of almost any woman who comes to see her and she makes many calls by request at the homes of the women of the community. Many of these calls result from home service girls who travel from home to home and in connection therewith they ask about Mrs. Ellwood and will she come and see them.

Another larger division of the sales department is the
—1,889—

lighting and rural sales under the direction of Mr. I. L. Illing, illuminating engineer. Mr. Illing lives in Milwaukee, he is 43 years of age and he is almost a veteran. He has been with us some nineteen years.

4224

Mr. Illing is in charge of all lighting operations and he is recognized in the community as a very able citizen and lighting engineer. He has devised for a great many special occasions very neat lighting effects.

We have a lecture with a set of portable apparatus that he designed. It is taken out before those who call for such a program, and showed to groups under the heading of a lecture called "The Miracle of Light". That has been going now for about two years and the demand for it never ceases.

It is an educational experience in what you can do with light in business, in the home, in the factory. It always is kept up-to-date with enough of the modern things like cold lighting, fluorescent lighting, to make it interesting, even to children of school age.

Then we have the merchandise stores with twenty-seven employees, under the direction of Mr. Elmer Stocker, with the title of Superintendent of Merchandise Sales. Mr. Stocker lives in Milwaukee, he is 45 years old and has been with the company eighteen years.

4226

Mr. Stocker's business is to actively push the sale of that type of merchandise that we think needs the push that the —1,890—

company can give it, and emphasis, as I said yesterday, is placed upon those electrical devices that are not taken off the counter in the department store and the electrical dealer.

Those things that have not received full customer acceptance are the things that our merchandise department pushes, together with our field forces.

Q. Your merchandise department sells these appliances which you feel need pushing? A. That is true; but we sell them at regular standard prices and we do not indulge in practices that any small dealer can not indulge in.

4227

We have a power sales division with sixteen employees under the direction of Mr. O. O. Wagley. He is the superintendent of power sales. Mr. Wagley came with the company a number of years ago when the company absorbed the Wells Power Company, a predecessor company operating in the City of Milwaukee, so he came to us with a good deal of experience that a manager of a small property gets with all types of customers.

4228

Gould W. Van Derzee—By Respondents—Direct

Wagley is 62 years old, very active, and he has been with the company for thirty-three years. I think he knows most of our customers personally and at some time or other and perhaps frequently has been through the factory of each and had something to do with the making of a report on power facilities.

—1,891—

4229

Mr. Wagley is the type of man that you know is just honesty itself when you look at him. When he gets out a report for a company, say, that has considerable use for by-product steam, and can more advantageously put in a small turbine in connection with buying some service from the company, he will tell that customer that that is what he ought to do. Correspondingly, if it isn't the thing, he and his salesmen will tell the customer that he ought not to put in a diesel engine for this or that reason and rather generally it works out from experience that when they depart from the advice of that bureau, they come back again to the company after a period of a few years.

4230

For the selling of ranges, we have a special division which sells nothing but electric ranges. There are fifteen men in the division and it is under Mr. Christopherson. He is known as the superintendent of range sales. Nels, as we call him, has a very large experience with the company.

He started in working in the former Central Heating Company, then he went with the sales department and has gradually become very proficient in dealing with cooperative dealers who handle electric ranges in the city and in handling his own sales force and keeping away from antagonism with dealers, although we, too, sell electric ranges direct.

Gould W. Van Derzee—By Respondents—Direct

4231

Mr. Christopherson is 57 years of age and it was with great pleasure that not many months ago I could go into his

—1,892—

office and say "Nels, congratulations on becoming a double veteran with forty years of service."

He will receive his double veteran's emblem at the annual meeting of the veterans just before Christmas.

Similar to the set-up by which we sell electric ranges, we have a division that promotes the sale of electric water heaters and there are twelve in that division under the direction of Mr. M. Zass, superintendent of water heater sales.

4232

Mr. Zass is 52 years old and has been with the company twenty-seven years. Electric water heating is somewhat of a new venture with this company, that is, compared with other promotional plans.

We have been selling electric water heater service now for five or six years and it has been, as is the case all over the country, an up-hill proposition because it hasn't as yet gained the popular acceptance that the electric range has. Give it another five years and electric water heaters will be sold off the shelf.

4233

I happen to know that right now Sears-Roebuck & Company, whom I consider to be among the best merchandisers in the world, is planning to take a substantial part of the output of A. O. Smith Company which has recently announced that it is making a line of glass lined water heater tanks.

A. O. Smith is one of our customers and they have been making large glass lined vessels for the beer industry and

4234

Gould W. Van Derzée—By Respondents—Direct

now they have gone into production on these small water
—1,893—
heater tanks with glass lining.

Of course, that is a fine thing for the water heater trade. I think we can look for big things in Mr. Zass' department in the coming years.

4235

In the advertising department, which is under the direction of Mr. Coffin, there are seven people headed up under Mr. F. E. Erikson, advertising manager.

Mr. Erikson is 55 years old, has been with the company for sixteen years and he is doing a good job in this field. This is one of those joint departments, that does a very substantial amount of work for the Transport Company, just as that department did for the transportation business before the corporate separation two years ago.

That completes the description of the departments and the personnel under the vice president and sales manager, comprising in total 216 employees.

4236

Q. Will you describe for us now the departments which are under Mr. L. F. Seybold, vice president and research engineer? A. Mr. L. F. Seybold, usually known around the office as Sey, lives in Wauwatosa. He is 43 years old and has been with the company for twenty-one years.

Mr. Seybold is a graduate of the University of Wisconsin and he came with the company after entering the service in the first World War on April 1, 1919, as an engineer in the

—1,894—
research department, which had not been organized very long at that time.

Gould W. Van Derzee—By Respondents—Direct

4237

He gradually advanced, as time went on and because of his great ability, to assistant research engineer and then to research engineer, assistant vice president, and then to vice president and research engineer, which position he has had since October 20, 1938.

I think that anyone who has had contact with Sey in this very important research work, thinks of him as a prodigious worker, a man of great intelligence and loyalty.

Many of you have undoubtedly come in contact with him in connection with some of the security matters. I probably don't need to go into his many good points. I will wish to describe later the functions of this research bureau which services all of the companies in our Wisconsin-Michigan group and very effectively and efficiently.

4238

Under Mr. Seybold's direction is the operating research bureau, having a total of seventy-seven employees. First, we have the assistant research engineer, Mr. John Dockendorf. Mr. Dockendorf is 51 years of age and has been with the company for twenty-one years. He has charge of the transportation and engineering division of the research bureau, handling of the internal auditing division which audits in a special way the accounts of Wisconsin Electric Power Company, Wisconsin Gas & Electric Company and The Transport Company.

4239

—1,895—

He has charge of the statistical division and special investigations division. Under Mr. Dockendorf are five groups in which thirty employees are engaged. There is the stenographic division with six employees, the transportation and engineering division with three employees, under the direc-

4240

Gould W. Van Derzee—By Respondents—Direct

tion of Mr. C. F. Balch, who lives in Wauwatosa, is forty-five years of age and has been in the service of the company twenty-three years.

The internal auditing division is also under Mr. Dockendorf, headed up by Mr. R. J. Mathews, as supervisor. Mr. Mathews is forty-five years of age, lives in Shorewood and has been with the company for seventeen years.

4241

Then we have the statistical division under the direction of Mr. R. W. Schmelz, as supervisor. Mr. Schmelz is thirty-six years old, has been with the company fourteen years. He has a great facility for gazing in the crystal globe and picking out how many kilowatt hours we will sell next year.

Then, a gentleman about whom I probably do not need to say very much as he has been with you for several days in the person of Mr. E. H. Schmidtman, known as Ed, who has charge of special investigation division of eleven employees. I think that most of his qualifications have been given and I think that you have been in a position to judge yourselves a good deal of his character.

4242

Ed is a man of many parts, keen intellect, very hard worker, valuable employee of this company.

—1,896—

His services in that capacity are devoted to the interests of a group of properties.

We have another research engineer, Mr. F. L. Larkin. Mr. Larkin lives in Whitefish Bay, he is forty-three years old, has been with the company for fifteen years. He is in charge of job analysis and bonus plans, bonus calculation, employee selection training division, and the employment office.

Gould W. Van Derzee—By Respondents—Direct

4243

Under Mr. Larkin are some thirty-nine trained men in four groups, the first of which, with seventeen employees, is under Mr. H. P. Chamberlin, supervisor. He has charge of wage incentives, standards, methods, and job analysis.

Mr. Chamberlin lives in Wauwatosa, is thirty-six years old and has been with our company fourteen years.

The bonus calculation division with twelve employees is also under Mr. Larkin indirectly, but is headed up by Mr. E. W. Gottschalk, supervisor. Mr. Gottschalk lives in Shorewood, is thirty-nine years old and has been with the company for eighteen years.

4244

A small division with nine employees called the employee selection and training division, is under Mr. A. H. Nielsen, educational director.

Mr. Nielsen is a man forty-one years old and has been with the company for sixteen years, lives in Milwaukee. As educational director he has done much to improve the trade

—1,897—

knowledge of our employees.

He has also done a great deal in promoting the foreman training process. We have meetings which have probably been described at which our four hundred some foremen get together and hear about processes of management. They conduct these meetings themselves and ask questions and our representatives at these meetings really do very little except to direct the course of the discussion.

4245

The employment office is directed by Mr. W. Pohland, as an employment agent. Mr. Pohland is forty-five years old, has been with the company for twenty-one years and he is a man with one of those remarkable memories for faces.

4246

Gould W. Van Derzee—By Respondents—Direct

An individual can come in whom he hasn't seen for many years. Possibly there may be some reason why that man should not be employed by the company. Mr. Pohland's recollection sends him back to a card somewhere back in the files to find if the records check with his recollection. It usually does.

4247

He is the first gate at which the new employee makes his application and from that point on there are very extensive selection and training tests, most of which are under the educational department, so it is natural that all of these divisions that I have just recited should be together under Mr. Larkin's general direction.

In addition, we have a third assistant research engineer, Mr. Alfred Gruhl. Mr. Gruhl is age thirty-eight and has been with the company for eight years.

—1,898—

He is assistant research engineer in charge of the very important subject of tax matters. Under him works Mr. C. J. Trudeau, who is supervisor of the tax division.

4248

Mr. Trudeau lives in Wauwatosa, he is thirty-six years old and has been with the company for fourteen years.

In addition to the operating research bureau, Mr. Seybold has charge of the purchasing and stores department with sixty-one employees, under the immediate supervision of Mr. F. V. Benz, purchasing agent. Mr. Benz lives in Milwaukee, age fifty-six, and for that age it is rather remarkable that he has been with the company for forty years, which means he started as a messenger boy when he was sixteen years old.

Mr. Benz' department not only has charge of purchasing and stores, but the general operation of the public service building, which includes the janitor force.

Gould W. Van Derzee—By Respondents—Direct

4249

Under Mr. Benz is the assistant purchasing agent, Mr. A. A. Misenheimer. Mr. Misenheimer is even younger than Mr. Benz, his boss. He is fifty-five years old and he also will get a double veteran medal for forty years of service at the annual meeting of the veteran's association at the end of this year.

An additional department under Mr. Seybold's direction is the printing department with twenty-seven employees supervised by Mr. B. F. Dahlman. Mr. Dahlman, Bruno, as we call him, is forty-nine years old, has been with the com-

4250

—1,899—

pany for twenty-four years. Bruno is one of the best, most good natured printers that I think I have ever met. You can get Bruno out of bed most any time of the night when we have to print up some document to go before different bodies that require rather prompt action, not too long to get things together, and he turns up with a job of printing the like of which you can't buy anywhere and for as low a cost.

He also gets out the many advertising forms that are needed for the sales department. He prints all the transfers for the Transport Company, does a great deal of work for Wisconsin Gas & Electric Company and various kinds of forms that they need.

4251

Quite recently, Wisconsin Gas & Electric thought it would go shopping and see how really effective our printing service was and they found that the form was quite a little cheaper when obtained from this joint printing department. Work is also done for Wisconsin Michigan Power Company.

As a matter of fact, as I will probably describe later—

4252

Gould W. Van Derzee—By Respondents—Direct

(Discussion off the record.)

The Witness: Read my last answer.

(Whereupon, the answer above recorded was read by the reporter.)

A. (Continuing) —in more detail, Mr. Dahlman's printing department prints the passes for the Capital Transit Company.

4253

—1,900—

Q. Will you now describe the department of the secretary and treasurer? A. As presently constituted, the department of the secretary and treasurer is under the direction of Mr. H. J. Boehm. Mr. Boehm is one of our oldest and most valued employees.

(Discussion off the record.)

A. (Continuing) Mr. Boehm is seventy-three years old and has been with the company for fifty-eight years. His qualifications have been previously given.

4254

In Mr. Boehm's department are six secretaries and stenographers, under his general direction, and the accounting department.

The accounting department with 317 employees is under the immediate supervision of Mr. A. J. Bohl, controller. Mr. Bohl is also assistant secretary and assistant treasurer. Mr. Bohl is a resident of Milwaukee. He is fifty-four years old and has been with the company thirty-nine years.

As controller he is in charge of all accounting. He entered the service of the company on July 1, 1901, as a mes-

Gould W. Van Derzee—By Respondents—Direct

4255

senger boy in the accounting department. He is a native of Milwaukee and this job was his first and only job.

He was appointed to his present office on March 24, 1926—that is, to the position of assistant secretary and assistant treasurer and although he has been acting as controller for a number of years, he was first officially appointed controller by the Board at its annual meeting in 1940.

As a direct assistant to Mr. Bohl, we have Mr. L. M. LaPorte, assistant secretary and assistant treasurer. Mr. LaPorte lives in Wauwatosa, he is forty-three years old and has been with the company for twenty years.

4256

Mr. LaPorte is in charge of customer accounting and he entered the service of the company on April 5, 1920, as an accountant. He had been previously employed by a large industrial concern and acquired experience in that capacity. His position as assistant secretary and assistant treasurer dates from May 16, 1932. It has been under Mr. LaPorte's direction that much of the progress has been made which has given the Milwaukee Company the lowest customer accounting costs of any comparable sized company in the country.

4257

That was one of the accomplishments that was listed in the Coffin Award which I will describe a little later, given to Wisconsin Electric Power Company for its performance in the field of electric light and power last summer by the Edison Electric Institute.

Under Mr. LaPorte's direction are the 317 employees that I mentioned of which 221 are in the customers' accounting division under the direction of Mr. A. G. Neumann, auditor of customers' accounts.

4258

Gould W. Van Derzee—By Respondents—Direct

Mr. Neumann lives in Milwaukee. He is a man forty-four years old and he has been with the company for seventeen years.

—1,902—

4259

The report and development division under Mr. T. W. Gehl, as supervisor, has twenty-two employees. Mr. Gehl is thirty-one years of age and has been with the company for five years, but he occupies a very important position in that his work is in effect a miniature research bureau which is a part of the accounting department and devotes almost all of its time to finding new ways and methods of keeping the Milwaukee company on top as far as accounting costs are concerned.

It is his job to see that we stay there.

There is another division known as the mechanical accounting division under Mr. H. J. Fillhouer as supervisor. This is a division where all of the various accounting machines of various kinds, tabulating machines, are located.

4260

Mr. Fillhouer is a man thirty-seven years old, lives at Fox Point, one of the outlying suburbs, and has been with the company for fifteen years.

That division has just been rejuvenated with respect to its quarters under Mr. Fillhouer's direction. We put sound-proofing on the wall, new floors, different arrangement of the machines. You can go in there and hear these machines that heretofore made lots of noise, just audibly clicking away.

It has much to do with the comfort and I think output of the department that performs a very important service and the work it does at the end of the month is intimately associated with the closing of the books.

—1,903—

Gould W. Van Derzee—By Respondents—Direct

4261

We have a division under Mr. J. A. Wolfrum, paymaster, which is called the payroll and timekeeping division, with twenty employees.

Mr. Wolfrum is forty-four years old, lives in Wauwatosa, and has been with the company for eighteen years.

This division is sometimes called the centralized payroll department. We are gradually taking all the payroll work from the various divisions and departments and concentrating it in the centralized payroll division, with benefits of considerable magnitude.

4262

We have a cashier's division under Mr. J. W. Mielke, cashier, under whose direction there are eighteen employees. Mr. Mielke is a resident of Milwaukee, is fifty-four years old, and he has been with the company for twenty-eight years.

The last division of the so-called accounting department covers the employees who are associated with the Employees Mutual Saving Building & Loan Association.

They are under the general direction of Mr. LaPorte, who is an officer of the Association, but their expenses are naturally kept separate and are charged against the association.

4263

There are twenty employees in that group.

Aside from the customers' accounting division, we have several smaller groups that are directly under Mr. Bohl as controller and one of these is the general accounting division

—1,904—

with twenty-three employees, under the immediate supervision of the general auditor, Mr. W. A. Gauger. Walter Gauger is a resident of Milwaukee County. He is out in the rural district by choice, he is forty-eight years old and he has been with the company for twenty-nine years. I should

4264

Gould W. Van Derzee—By Respondents—Direct

say he has been with this company and its predecessors, because he, too, came with the Wells Power Company.

He is general auditor in charge of the general accounting division.

We have accounts payable division with nine employees under the direction of Mr. S. R. Hatch, as auditor of disbursements.

Mr. Hatch lives in Whitefish Bay. Sam is sixty-one years old and has been with the company for nineteen years.

4265

Then we have the property and plant division reporting directly to Mr. Bohl, with thirty employees under the direction of Mr. R. L. Stiles. Mr. Stiles is the supervisor. This is one of the really modern departments of the company. It is the one where the property records are kept.

For many years, we have tried to keep our property up to date. We started with the valuation made by the Public Service Commission as of January 1, 1914, and since that time have analyzed work orders covering each specific job and properly tied it in with the books so that we can produce authentic records and in considerable detail of all the property that the company owns.

4266

—1,905—

It isn't exactly a continuous inventory, but it is a direct book record of dollars and cents and we have used the net additions of property thus added—that is, taking away from the additions, the retirements—as a direct addition to the valuation of January 1, 1914, corrected for retirements, in order to get at the rate base on which we are allowed a return.

Mr. Stiles being an engineer and also an accountant, is very ably constituted to handle that work. We have a col-

Gould W. Van Derzee--By Respondents--Direct

4267

lection division that does minor legal work as distinguished from our general counsel under the direction of Mr. R. J. Schimmel. There are five employees in that division and it is located in the accounting department quarters.

Mr. Schimmel is forty-two years old and he has been with the company for twenty-two years and he is designated as being in charge of collections.

Then we have a securities division reporting to Mr. Bohl, under Mr. W. J. Muth. He is supervisor of this division of eleven people and Mr. Muth has been with the company fourteen years; he lives in Milwaukee and is thirty-nine years old.

4268

That completes a superficial description of the officers, department heads and their principal assistants and their service records.

—1,906—

If we take them altogether as a group and analyze the places they live, the time they have been with the company, their qualifications, I think we reach three rather important conclusions:

That all of them live in the service area and very close to where they work; that the average length of employment with our company has been 21.1 years; and last, that as a group they are pretty able citizens, respected in the community.

4269

Q. You have been testifying with regard to the management staff of Wisconsin Electric Power Company. Will you now describe for us the Board of Directors of Wisconsin Gas & Electric Company? A. The Board of Directors of Wisconsin Gas & Electric Company includes Sylvester B.

4270

Gould W. Van Derzee—By Respondents—Direct

Way, Gould W. Van Derzee, Frank J. Boehm, James D. Shaw, Stanley B. Sherman, who was elected April 25, 1940, Arthur W. Whitcomb, who was elected February 22, 1933, and Robert Sealy who was elected December 23, 1938.

All the foregoing have already been mentioned by me in detail except Messrs. Sherman and Whitcomb, but I find in omitting the dates at which the other gentlemen were elected to the Board, I was under the impression that we had given that information before, but it is not the case in respect to

4271

these companies although we have given a description of the individuals.

Mr. Way was elected to the Board of Wisconsin Gas & Electric Company January 15, 1912; G. W. Van Derzee,

—1,907—

August 29, 1917; Frank J. Boehm on February 18, 1924; and James D. Shaw on January 18, 1915.

Mr. Stanley B. Sherman, a board member whom I have not described, resides in Racine, Wisconsin, which is the home office of Wisconsin Gas & Electric Company. Mr. Sherman is fifty-nine years old. He was graduated from Armour
4272 Institute of Technology of Chicago and prior to coming to Racine, Mr. Sherman was employed by the Peoria Gas Light Company located at Peoria, Illinois, for a period of approximately eighteen years. While employed at the Peoria Gas Light Company, he served in various capacities and advanced to the position of gas plant superintendent.

He entered the employment of Wisconsin Gas & Electric Company on August 15, 1919, as gas plant superintendent at Racine. On November 18, 1938, he was appointed general manager and on April 1, 1940, was elected to the present position of vice president and general manager.

Gould W. Van Derzee—By Respondents—Direct

4273

Mr. Sherman has resided in the territory served by Wisconsin Gas & Electric Company since the date of his employment, a period of approximately twenty-one years.

Mr. Sherman has, so to speak, come up through the ranks and has demonstrated from time to time the justification of increasing the importance of his position and we know that his most recent employment will be a great benefit to the company. —1,908—

Mr. Arthur J. Whitcomb resides in Whitefish Bay, Wisconsin. Mr. Whitcomb is fifty-four years of age. He graduated from the Law School of the University of Wisconsin and after graduation he entered practice of law in the City of Oconto, Wisconsin. Mr. Whitcomb continued the practice of law at this location until entering the employment of the company.

4274

On November 1, 1930, he entered the employment of The Milwaukee Electric Railway & Light Company, predecessor company of Wisconsin Electric Power Company, as an assistant to vice president William A. Jackson.

His present position is attorney in charge of contacts with local governments and that applies to his work for the Wisconsin Electric Power Company and The Transport Company, although he assists Wisconsin Gas & Electric Company.

4275

Mr. Whitcomb has resided in the territory of Wisconsin Electric Power Company and predecessor company for nearly nine years and has been a resident of the State of Wisconsin since his birth. Mr. Whitcomb has been in the company group for ten years.

Q. Will you now describe for us the functions of the Board of Directors of Wisconsin Gas & Electric Company?

4276

Gould W. Van Derzee—By Respondents—Director

A. As you will note from the description of the Board, there are only seven directors of Wisconsin Gas & Electric Company and six reside, you may say, in or near Milwaukee. Mr. Sealy lives in the east.

—1,909—

We have no executive committee of Wisconsin Gas & Electric Company and consequently the types of functions performed by the Executive Committee of Wisconsin Electric Power Company are handled before the full Board.

4277

There are also a number of other informal meetings of the Directors in Milwaukee with the vice president and general manager, which are the approximate equivalent of an executive committee meeting and out of those meetings, I am sure, that Mr. Sherman and all of us get a good deal of value.

Q. Does the Board of Directors of Wisconsin Gas & Electric Company direct all phases of its management? A. The Board of Directors of the company, naturally, directs all of the phases of the management and is in constant and intimate contact with all the affairs of the business and each director is fully acquainted with all of the affairs. Even Mr. Sealy, who does not live in the territory, gets regular reports of all operations and attends meetings from time to time.

4278

Q. Who are the general executive officers of Wisconsin Gas & Electric Company? A. In the case of Wisconsin Gas & Electric Company there are four general executive officers—that is, officers whose duties extend generally over all of the operations of the company, as distinguished from officers who have charge of particular divisions and operations.

—1,910—

Gould W. Van Derzee—By Respondents—Direct

4279

These four are Mr. Way, president; G. W. Van Derzee, vice president; L. F. Seybold, vice president and Mr. Sherman, vice president and general manager.

Mr. Sherman is really in charge of the operations of the property and it is up to him to see that the property percolates properly.

Now, we are all in contact with the activities—that is, the general executive officers that I just referred to. Mr. Sherman is out on the firing line and he is in almost constant contact with the heads of the various divisions of the company.

4280

The company is spread out so that it has to have operating divisions. He travels extensively throughout these divisions, coming in contact with the division managers, district managers, the local agents of various communities in which they operate. To him report directly all of the division managers.

Mr. Sherman, as vice president and general manager, has full authority to deal with and does deal with all matters in his territory which relate to the maintenance of the character of service which the public expects.

That means really, in other words, in all things that the ultimate customer is really and actually interested.

4281

Q. Will you describe for us the operating staff of Wisconsin Gas & Electric Company?

Just a moment, Mr. Van Derzee, before you do that. I believe that you omitted to state the approximate total number of employees of Wisconsin Electric Power Company.

—1,911—

What is that total figure? A. Approximately 2,300 employees.

4282

Gould W. Van Derzee—By Respondents—Direct

Q. Now, will you describe for us the operating staff of Wisconsin Gas & Electric Company? A. The next officer in line, whose name has not yet been mentioned, is that of D. G. Evans, vice president. Mr. Evans lives in Racine, the home office of the company. He is fifty-two years old and has been with the company for twenty-one years. He is vice president in direct charge of rate analysis and development, service rules and regulations and special investigations.

4283

Mr. Evans first entered the service of Wisconsin Gas & Electric Company on January 15, 1919, as an electrical engineer. He had previously attended the State University of Illinois. He was elected vice president on November 18, 1938.

Reporting directly to the vice president and general manager are the various division managers. But before explaining their functions and describing them, I would like to add the description of the other officers of the company.

4284

The secretary and treasurer is Mr. F. J. Boehm, who has been previously described, except that his length of service with this particular company has not been given and that is twenty-nine years.

Mr. Boehm was elected secretary and treasurer of the predecessor company, the Racine Gas Light Company, on August 2, 1911.

—1,912—

The assistant secretary and assistant treasurer of the company is Mr. L. M. LaPorte who has been previously described. Mr. LaPorte has been with this company four years in the capacity indicated.

In addition, there is assistant secretary and assistant treasurer, Mr. J. G. Johansen. Mr. Johansen has been in

the capacity with Wisconsin Gas & Electric Company for four years. Mr. Johansen is thirty-two years of age. His place of residence is Woodcliff, New Jersey.

Q. Mr. Johansen handles certain matters of the company in New York? A. He does.

Q. He holds the same position for Wisconsin Electric Power Company? A. He does.

Q. Go ahead. A. In addition, we have Mr. J. I. Allen, assistant secretary and assistant treasurer. Mr. Allen resides in Racine. He is forty-four years old and has been with the company for twenty-eight years. In that capacity, Mr. Allen is in charge of corporate records, collections, budgets and securities.

Mr. Allen entered the services of Kenosha Gas & Electric Company on July 8, 1912, and continued in the services of Wisconsin Gas & Electric Company after the merger of the former company with the latter. He was appointed to his present position on October 20, 1929. —1913—

Now, going back to the division managers—

Q. Just before you do that, Mr. Van Derzee, is Mr. Bohl an officer of Wisconsin Gas & Electric Company? A. He is also assistant secretary and assistant treasurer.

Q. And you also mentioned Mr. LaPorte. A. I did. Mr. R. I. Swift is manager of the Racine division. Mr. Swift is forty-two years old and has been with the company for eighteen years.

As manager of the Racine division, he is in direct charge of the gas and electric service rendered by Wisconsin Gas & Electric Company in the division and also in charge of the electric operations of Wisconsin Electric Power Company in Racine.

4288

Gould W. Van Derzee—By Respondents—Direct

4289

It so happens that Wisconsin Gas & Electric Company does the gas business in Racine and Wisconsin Electric Power Company does the electric business, and from the standpoint of economy of operation, and the joint use of the forces and because, further, the home office of Wisconsin Gas & Electric Company is at Racine, we have an operating arrangement approved by the Public Service Commission of Wisconsin, that various—practically all the operating functions that would otherwise be required of employees of Wisconsin Electric Power Company are performed by Wisconsin Gas & Electric Company—

(Discussion off the record.)

—1,914—

A. (Continuing) —at Racine, under Mr. Swift's direction as Racine manager for Wisconsin Electric Power Company.

A recent example of what Mr. Swift does is his visit to see us at Milwaukee concerning a change in the Racine street lighting situation. We worked up with Mr. Swift, a presentation that we wanted him to make before the Racine Council and he returned and made that presentation.

4290

The manager of the Kenosha Division is Mr. H. M. Pauley. Mr. Pauley has under his direction 163 employees as compared with 122 employees under Mr. Swift in the Racine Division. Mr. Pauley lives in Kenosha which is the center of his division.

He is fifty-two years old and has been with the company for twenty-two years and as manager of the Kenosha Division, he has charge of the electric, gas and transportation operations in the Kenosha Division.

Perhaps a little more detail on those operations of the three functions over which he spreads himself might properly

be given. There is the operation, maintenance and construction of the electric, gas and the transportation business, customer billing for the electric and the gas. Those bills, by the way, are sent out for electric and gas on the same bill and the same meter readers take care of reading the meters of both the gas and the electric customers.

There are problems of electric service for the electric

—1,915—

utility, problems of gas service for the gas utility, collections for both and merchandising for each.

4292

Another division manager is Mr. W. D. Leonard, who is manager of the Western Division, with 165 employees. Mr. Leonard lives at Fort Atkinson, Wisconsin, the center of the operating division. He is a man fifty-five years old, has been with the company for thirteen years, but it ought to be stated that Mr. Leonard was an acquisition when Wisconsin Gas & Electric Company acquired the property of a Fort Atkinson local utility, and he had been with the utility business there in Fort Atkinson for many years prior to that time, so it is really an understatement of his situation as far as his length of service is concerned to say that he has only

4293

been with us thirteen years.

He is a long-term resident of Fort Atkinson, knows everybody in the district, I would say.

The work which is done by this division is spread over the electric, gas and heating operations wherever they occur. The heating operation is in Waukesha and gas is spread throughout the territory on account of the high-pressure pipe-line which provides the source of gas.

Mr. Leonard has charge of the operation, maintenance and construction work applicable to these three services,

customer billing, customer servicing, collections, and merchandising. In other words, he has charge of everything that needs to be done promptly or otherwise for any customer in his division.

—1,916—

The fourth division under the direction of Mr. W. E. Kuelthau, is known as the Northern Division, and in that division are ninety-one employees.

4295

Mr. Kuelthau lives in West Bend, which is the operating division office. He is fifty-six years old and his service with Wisconsin Gas & Electric Company has been only eight years, but Mr. Kuelthau, like Mr. Leonard, came to the company when Wisconsin Gas & Electric Company acquired the privately owned company known as the Wisconsin Public Utility Company, which theretofore operated in West Bend and in a substantial amount of territory adjacent thereto. So he is a long-term resident of the community and I have known him for a great many years.

4296

He is one of those sturdy type, rough diamonds that everybody knows and he gets along with everybody. He is a very effective manager of the entire division.

We have some other divisions of the company which are not described under the heading of operating division. We have the division of the chief accountant, Mr. C. F. Betts, who has thirty-two employees under him.

Mr. Betts is thirty-six years old and has been with the company for five years. He is the chief accountant in charge of accounting payrolls, bonus calculations and audits.

We come next to the chief engineer of the company, Mr. J. A. Tyvand. Mr. Tyvand lives in Racine as does Mr.

Betts. He is forty years old and he has been with the com-

—1,917—

pany for two years in the capacity of chief engineer. In that capacity all of the engineering work that requires the services of an engineer is done at Racine for all the divisions.

It is a measure of economy and centralization of engineering work that is peculiar to Wisconsin Gas & Electric Company.

Q. Why do you do it that way? A. I stated it was a matter of economy. But, in addition to local handling of distribution and transmission matters by Mr. Tyvand, all of the engineering is done in accordance with general specifications which have been prepared for construction for the three companies—Wisconsin Electric Power Company, Wisconsin Gas & Electric Company, and Wisconsin Michigan Power Company—and there are, in connection to these local engineering operations, many conferences between Mr. Tyvand and the engineers of Wisconsin Electric Power Company.

4298

Mr. H. R. Broker has 110 employees under him as plant superintendent in charge of gas plant operations and maintenance. Mr. Broker lives in Racine. He is forty-four years old and has been with the company for nineteen years.

4299

Mr. W. L. Haight has a designation of assistant secretary. He has two employees under him and in that capacity has charge of personnel relations, labor relations, safety matters, and right-of-way purchases as required by the company.

—1,918—

Mr. Haight is fifty-six years old and has been with the company for twenty-five years.

4300

Gould W. Van Derzee—By Respondents—Direct

Under Mr. J. H. Dunham is one of the very important functions, that of promotional supervision. By that I mean promotion of new business. There are five employees under Mr. Dunham, who takes care of new business, merchandising and advertising.

4301

Mr. Dunham lives in Racine. He is thirty-four years old, and his length of service—I should say here, with the companies—is ten years, because, he has recently been transferred from the sales activities of Wisconsin Michigan Power Company to bolster up the sales activities of Wisconsin Gas & Electric Company.

4302

Quite frequently we find a collection of men in one of these properties peculiarly able to do something better than someone in one of the other properties, and although Mr. Schubert, general manager of Wisconsin Michigan Power Company told me the other day in connection with our Board meeting at Milwaukee, that he disliked very much to see Mr. Dunham leave his direct services, he was glad that Wisconsin Gas & Electric Company could get a man with the really good qualities of sales supervisor that Mr. Dunham has.

The residual sales require the employment of six persons and I am not giving the name of the man in charge right now because the placing of supervision is now in a state of flux.

—1,919—

In all, there are 776 employees in the Wisconsin Gas & Electric Company organization. I think we can say with respect to that company much the same thing that was said with respect to Wisconsin Electric Power Company, that the men who have active charge of the business, full charge, to

give the kind of service that the customer wants, live in the territory where their particular functions must be performed, that they are old and long in the service of the company, that they have averaged some 15.4 years for the group from the officers down through the division managers, and their principal assistants.

My long contact with this company, which, as you may remember, dates back to being on the board of directors since 1917, gives me very definite first-hand knowledge that the important functions of this company are ably staffed.

4304

Q. We can now turn to Wisconsin Michigan Power Company. Will you describe the Board of Directors of that company?

The Examiner: Would any of you like to have a recess?

Mr. Browning: Yes, sir.

The Examiner: All right, we will have a little recess.

(Whereupon, a short recess was taken.)

Mr. Browning: Will you read the last question?

4305

(Whereupon, the pending question was read by the reporter.)

The Witness: Mr. Sylvester B. Way, elected December 9, 1924; Gould W. Van Derzee, elected November 20, 1925; Frank J. Boehm, elected February 22,

—1,920—

1928; James D. Shaw, elected December 15, 1927; William E. Schubert, elected April 23, 1940; Arthur J. Whitcomb, elected February 15, 1933; and Robert Sealy, elected December 23, 1938.

4306

Colloquy

All of the foregoing have been described by me except Mr. William E. Schubert. Mr. Schubert is a resident of Appleton, which is the head operating office of the company, although the home office of the company is at Milwaukee.

4307

Mr. Schubert is forty-three years old. He was graduated from the engineering school of the University of Wisconsin and prior to the employment with Wisconsin Michigan Power Company he was employed for a number of years by The Milwaukee Railway & Light Company, predecessor to Wisconsin Electric Power Company.

He entered the employment of Wisconsin Michigan Power Company on September 1, 1923, as mechanical engineer. I recollect very distinctly that Mr. Schubert was one of the principal assistants coming along under former John Anderson, chief engineer of power plants of Wisconsin Electric Power Company.

4308

You may know that Mr. Anderson's name looms large in the history of the development of powdered fuel and when it became necessary to remodel the boiler house of Wisconsin Michigan Power Company located at Appleton, Mr. Schubert was wholly detached from the Milwaukee power plant organization and sent up to Appleton to see through the complete reconstruction of the boiler room at that place for powdered fuel operations, and he did a very fine job

—1,921—

of it, so well, as a matter of fact, that he stayed there and on December 7, 1932, he was appointed assistant general manager of the company, on February 21,

Gould W. Van Derzee—By Respondents—Direct

4309

1936 general manager, and on March 31, 1939, he was elected to his present position of vice president and general manager of the company.

Bill Schubert can be described as another Wisconsin product, having been born in Milwaukee and educated at the University of Wisconsin, and he has worked in the employ of the companies for approximately twenty-one years.

Q. What are the functions of the Board of Directors of Wisconsin Michigan Power Company? A. As in the case of Wisconsin Gas & Electric Company, the Board of Directors of Wisconsin Michigan Power Company has only seven members; it has no executive committee.

4310

The Board of Directors normally meets monthly and all of the various problems which I described as coming before the Executive Committee of Wisconsin Electric Power Company come before the full board of Wisconsin Michigan Power Company.

The absence of an executive committee of this relatively small company is probably made good by the frequent visits of the chief operating officer to Milwaukee and as a matter of fact, by visits of the Milwaukee officers to the property where important matters are discussed.

4311

Just recently I recollect that Mr. Way took a trip, in fact, with Mr. Shea of the North American Company, who came out to look over the properties. They went quite

—1,922—

thoroughly over the properties of Wisconsin Michigan Power Company as well as the others and were particularly interested in going up to the Narrows Dam, where a storage

4312

Gould W. Van Derzee—By Respondents—Direct

reservoir is in process of construction on the Michigamme River.

Perhaps Mr. Schmidtman has described the Narrows Dam. I am sure that the frequent conferences which the so-called general executive officers of Wisconsin Michigan Power Company have at Milwaukee and on the property in Appleton and elsewhere, effectively takes the place of the more formal meetings which the larger company, Wisconsin Electric Power Company, finds it convenient to have in the form of its Executive Committee.

4313

Q. The Board of Directors of Wisconsin Michigan Power Company actively directs its management of the business?

A. Yes, the Board of Directors does actively direct the management of the business in all its phases and all of the directors are rather intimately in contact with the affairs. All of them are in extremely intimate contact and I know that Mr. Sealy, who lives in the east, receives frequent reports of operation and is also familiar with the properties.

Q. Who are the general executive officers of the company?

4314

A. The general executive officers of Wisconsin Michigan Power Company are Mr. Way, Mr. Van Derzee, Mr. Seybold and Mr. Schubert. The first three are also general executive officers of Wisconsin Gas & Electric Company and the first two are general executive officers of Wisconsin Electric Power Company.

—1,923—

Messrs. Way, Van Derzee and Seybold are in general contact with the business and Mr. Schubert, in the capacity of vice president and general manager, has the portfolio of being in charge of general operations of all kinds.

He is the local man that really directs the operations of the company under the general direction of the Board of

Directors and in conference with the other general executive officers.

He lives at Appleton in the service area and I know of no other operating officer that has the intimate details of the operation of the business so close to his fingertips as Mr. Schubert.

He is a prodigious traveler. He is at one end of the property one day and the other end of it the next. He watches production very carefully. He is able to do so because of his training. He has able men taking care of sales work and other divisions of the business, but he, himself, has a good working knowledge of all phases of the utility industry.

4316

Mr. Schubert is not restricted in any way. He has full authority to deal with and does deal with all matters in the territory which relate to the maintenance of service expected by the public. That means, in other words, in all things in which the customers are really interested.

Q. Will you describe for us the operating staff of Wisconsin Michigan Power Company? A. Wisconsin Michigan

—1,924—

4317

Power Company is a somewhat smaller company than the other two. It has 443 employees. Under Mr. Schubert is an assistant general manager, Mr. M. G. Gorrow. Mr. Gorrow, as the title indicates, has authority under Mr. Schubert to carry on fully in his absence, and he assists him in all operations when he is present.

Mr. Gorrow lives in Appleton. He is forty-three years old and he has been with the company for twenty-three years. He is a very capable operator. One of the largest aggregations of employees in any division of the company is in the

4318

Gould W. Van Derzee—By Respondents—Direct

so-called Southern Division which has 207 employees under the direction of Mr. F. E. Volkman.

Mr. Volkman lives in Appleton. He is forty-two years old and he has been with the company for thirteen years. He is the manager of the Southern Division.

He is in direct charge of the electric, gas and transportation operations in the Southern Division.

4319

There is also the Northern Division with 128 employees under the direction of Mr. L. W. Wyss. Mr. Wyss is an old-time employee of the company. He lives at Iron Mountain, Michigan, which is the operating headquarters of the Northern Division.

He is forty-four years old and has been with the company for twenty-three years and he operates as the manager of the Northern Division in direct charge of electric operations in

—1,925—

that division.

4320

There are no gas or transportation properties in the Northern Division. In other words, he has complete charge of the operations of the company in the Northern Division.

That Northern Division, as you may have been told by Mr. Schmidtman, includes the territory of the company in Michigan and a small amount of territory just south of the north boundary of Wisconsin.

In charge of purchasing and stores, is Mr. H. H. Damm. Mr. Damm lives in Appleton. He is thirty-nine years old and he has been with the company for twenty years. He is the purchasing agent in charge of purchasing and stores with five people under him.

Gould W. Van Derzee—By Respondents—Direct

4321

I have not heretofore mentioned individual officers other than those discussed as general executive officers and the first assistant. These additional officers are secretary and treasurer F. J. Boehm, whom you will recognize is secretary and treasurer of Wisconsin Gas & Electric Company and Wisconsin Electric Power Company.

With this particular company, he has been secretary and treasurer for fifteen years. The assistant secretary and assistant treasurer, Mr. A. J. Bohl, who also has similar positions with the other named companies, has been in those positions for twelve years with Wisconsin Michigan Power Company and Mr. LaPorte, as assistant secretary and assistant treasurer, has been with the company for four years

4322

—1,926—

in those capacities.

We have previously mentioned Mr. Johansen and he has been in the capacity of assistant secretary and assistant treasurer at New York for four years.

We have also Mr. L. R. Gresenz, who is assistant secretary and assistant treasurer. Mr. Gresenz lives in Appleton. He is forty-four years old and he has been with the company for twenty-five years and he is in charge of corporate records, collections, securities, insurance reports and accounting procedure.

4323

He is very ably assisted by another assistant secretary and assistant treasurer, L. E. Hellenbeck, and the "L." stands for Linda. Linda is a lady. Miss Hellenbeck resides at Appleton and has been there for many years. She is forty-seven years old and has been with the company for twenty-seven of those forty-seven years.

4324

Gould W. Van Derzee—By Respondents—Direct

She is specifically in charge of accounting, payroll and auditing and with Mr. Gresenz, constitutes the supervision over the character of activities indicated, with twenty-eight people under their supervision.

We have a chief engineer with twenty-five employees, by the name of C. E. Harger. Mr. Harger lives in Appleton. He is sixty-one years old and has been with the company for twenty-seven years, now chief engineer in charge of engineering, plant records, Southern Division plant operation and property accounting.

4325

—1,927—

As I recollect the situation, Mr. Harger, and I am certain of this, came with us from the Peninsula Power Company, which we acquired back some fifteen years ago.

Assisting Mr. Harger is Mr. J. S. Wells, as assistant chief engineer. Mr. Wells lives in Appleton, has been with the company for fourteen years and is thirty-eight years old.

4326

Mr. C. E. Schaefer, is an executive assistant with various duties common to that type of operation. He is particularly interested in personnel relations and labor relations and does a good job at it.

Mr. Schaefer is a resident of Appleton, age thirty-eight and has been with the company for twelve years. He also does some work in connection with the operating budgets of the company.

We have in the person of Mr. R. E. Williams, I think, one of the very effective promotion-of-business managers. Mr. Williams has charge of new business and merchandising and advertising with twenty-seven employees under him.

Gould W. Van Derzee—By Respondents—Direct

4327

He has made a quite remarkable record in increasing the sales of residence and rural service in the communities served. Mr. Williams, although he does considerable traveling around the territory, lives in Appleton. He is thirty-eight years old and has had eight years of service with the company.

Q. What is the total number of employees of the company? A. I previously gave that at 443. —1,928—

Q. And what is the average length of service of the officers and staff heads? A. The officers and staff heads, whom I have just described in some detail for Wisconsin Michigan Power Company, average a length of service with the company, disregarding the companies that were predecessors to any portions of it, of 15½ years.

4328

The Examiner: We will recess until 1:30.

(Whereupon, at 12:20 o'clock p. m., the hearing was recessed until 1:30 o'clock p. m. the same day.) —1,929—

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4330

Edward H. Schmidtman—By Respondents—Cross

AFTERNOON SESSION

(Whereupon, at 1:30 o'clock p. m., the hearing reconvened.)

The Examiner: The hearing will come to order. Are you going to start the cross examination?

Mr. O'Dell: Yes, sir.

The Examiner: Do you have any further direct examination?

4331

Mr. Hamilton: No, sir.

Whereupon, EDWARD H. SCHMIDTMAN having been previously sworn, resumed the stand and testified further as follows:

Cross Examination by Mr. O'Dell:

4332

Q. Mr. Schmidtman, I think you testified before that you were a member of the operating research bureau which was run by the Wisconsin Electric Power Company for the benefit of all three companies? A. Yes, sir, I did.

Q. How are the charges and expenses of this bureau allocated among the three companies? A. All of the people employed in the bureau except the department head and the principal assistants are entirely on the payroll of Wisconsin Electric Power Company. A portion of salaries of the department head and the principal assistants are paid by Wisconsin Gas & Electric Company and Wisconsin Michigan

—1,930—

Power Company. When work is done in the department for either of the other two companies or for The Milwaukee

Edward H. Schmidtman—By Respondents—Cross

4333

Electric Railway & Transport Company, the direct labor spent on that work is billed to the companies for which the work was done at cost.

There is no element of profit involved, but the total charges involved in doing the work are charged to the company for which the work was done.

Q. This charge that is made to the individual company for whom the investigation is made, does that also include a portion of office expenses and general overhead expenses? A. Yes, that is correct.

4334

Q. I believe you also testified that the book value before depreciation of the properties of the three companies was \$140,315,000.00? A. \$140,315,612.00.

Q. How are those book values arrived at? A. Those are the figures carried in the books of the three companies for electric plant in service as of the end of 1939.

Mr. Browning: End of what?

The Witness: 1939.

(Discussion off the record.)

4335

By Mr. Maxwell:

Q. What is the basis for these costs? Does it constitute an original value set by the Wisconsin Commission at some —1,931— previous date to which has been added net additions? A. They represent the book value of the properties as indicated on the books of the companies. These figures include some items which represent differences between the recorded cost of the properties and the results of valuations made at different times for the different companies.

4336

Edward H. Schmidtman—By Respondents—Cross

and valuation was made in 1914. The result of that valuation differed somewhat from the figure carried on the books of the company as fixed capital at that time.

The figures which I have given as book value do not reflect that difference between the appraisal and the recorded investment in property up to that time.

4337 I testified that these figures were book value and we distinguished that figure from the figure carried in our property record which I spoke of yesterday, which property record figures are based on valuations plus additions and minus removals to date.

By Mr. O'Dell:

Q. Which is the higher figure—the book value figure? A. The book value is slightly higher than the property record figure. I don't have the exact differences in mind and the material I have here doesn't give those differences.

Q. Mr. Schmidtman, do you know of any arrangements for interchange of power where there is not common ownership? A. Could you expand the question a little? I don't

4338

—1,932—

believe I understand what you mean.

Mr. O'Dell: Read the question again.

(Whereupon, the pending question was read by the reporter.)

The Witness: Do you mean—

By Mr. O'Dell:

Q. (Interposing) I could expand that a little more. Do you know of any arrangements between a number of com-

panies operating in areas fairly close to each other where these companies are not owned by one company? A. Yes, I know of such arrangements. Do you mean arrangements in which one of our companies interchanges energy with a non-affiliated company?

Q. First, I will ask you if companies other than any of your own companies are involved in such arrangements?

A. From my work in connection with the survey of power facilities in the State of Wisconsin, I know of places on the map where the transmission systems of non-affiliated companies make interchanges. As to the details of the interchange of power at those points, I am not informed.

Q. Do you know what companies are involved? A. I know of an interconnection between Northern States Power Company and Wisconsin Hydro-electric Company and of an interconnection between Lake Superior District Power Company and a small system operating in the northwest portion of the State of Wisconsin. There may be other interconnec-

—1,933—

tions that I can't call to mind at the moment.

A number of the interconnections which we considered in the power survey of the State of Wisconsin were between operating companies belonging to the same holding company organizations.

Q. Do you know of the interchange of power agreement which exists between Commonwealth Edison Company and the Public Service Company of Northern Illinois, Northern Indiana Public Service Company, and Western United Gas & Electric Company? A. No, I am not familiar with those interconnections.

4342

Edward H. Schmidtman—By Respondents—Cross

Q. Are you familiar with the interchange of power arrangement between Pennsylvania Power & Light Company, Public Service Company of New Jersey, Philadelphia Electric Company and the Safe Harbor Hydro Station on the Susquehanna River? A. No, I know nothing of those interconnections. I have had no occasion to work with them or study them.

(Discussion off the record.)

4343

By Mr. O'Dell:

Q. Are you familiar with the Baltimore connection with the Potomac Electric Power Company? A. I have been told that such an interconnection exists and I have heard of it, but beyond that I can't give any information on it. I know nothing of how it operates or what amounts of power are interchanged or what the rates are.

Q. What is the general function of these interchange of
—1,934—

power agreements? A. Of these that you have mentioned?

4344

Q. Yes. A. I don't know. I am not familiar with the interconnections and don't know for what purpose they were established or what functions they perform.

Q. I am afraid you misunderstood my question. I wasn't referring to the three specific agreements I mentioned, but generally speaking, what function do these interchange of power agreements serve? A. Generalizing, I believe it can be said that interconnections between the transmission systems of different utility companies are effected for the purpose of carrying out advantageous interchange of power

Gould W. Van Derzee—By Respondents—Direct

4345

under the circumstances under which the companies involved in the interconnection are operating.

One can not speak specifically of the purposes of any interconnection without knowing exactly the circumstances under which that interconnection was established.

Interconnections differ widely from each other with respect to function and extent of interchange and various other aspects.

(Discussion off the record.)

4346

(Witness temporarily excused.)

—1,935—

Whereupon, GOULD W. VAN DERZEE having been previously sworn, resumed the stand and testified further as follows:

Direct Examination by Mr. Browning (Continued):

Q. I believe you testified yesterday, Mr. Van Derzee, that good employee relationships was one of the subjects which constantly occupied your attention and that of the three companies, is that correct? A. Yes. I previously testified to the importance of good public relations as viewed by the general executive officers of Wisconsin Electric Power Company.

4347

It happens that three of the general executive officers of Wisconsin Gas & Electric Company and also of Wisconsin Michigan Power Company are also officers of Wisconsin Electric Power Company, so it is quite natural that the policies of Wisconsin Gas & Electric Company and Wiscon-

4348

Gould W. Van Derzee—By Respondents—Direct

sin Michigan Power Company with respect to the importance of employee relations should be identical.

For a great many years, the managements of these companies have followed a policy of maintaining good public relations and employee relations. The two go together. At an early date, it was recognized that good reliable service at low cost could be rendered only by employees who were satisfied with their working conditions and the general

—1,936—

4349

treatment accorded.

Most of the occupations found in the business grow steadily more important and more specialized and this has increased the value of experience and has placed increasing importance on keeping employees in service for long periods.

A few of the instrumentalities for maintaining good employee relations will now be described.

One of these is the Employees' Mutual Benefit Association, which we believe has improved employee relations materially.

4350

On February 28, 1912, this organization, namely, the Employees' Mutual Benefit Association, was formed among the employees of The Milwaukee Electric Railway & Light Company, Milwaukee Light, Heat & Traction Company and its associated and subsidiary companies.

It was organized originally to provide a mutual benefit society and an organization to administer a newly created loan fund. The benefit society aspects of it were the more important.

The loan fund related primarily to the amount of money which the company arbitrarily decided to set up and to loan

without interest to any needy employees who needed to take care of a doctor bill or an overdue coal bill or some such purpose as that.

Its purpose also was to create a fund to provide medical assistance for members, to pay disability and death benefits and to foster and promote a spirit of good fellowship among the employees of the company.

—1,937—

The benefits originally provided for sick benefit purposes were \$1.00 a day when sick, a death benefit of \$300.00 and free medical service for members. Now, that term "free" is probably not entirely correct because each member, in order to gain these services which he could have if he wanted, or not take if he didn't want, had to pay \$1.00 plus 50 cents a month. \$1.00 was a fee which was paid just once.

4352

All employees of the companies were eligible to participate. For that 50 cents, the employee received at that time really expert medical attention. A very interesting thing in connection with the organization of the Employee's Mutual Benefit Association is the fact that it was devised and actually fostered and placed in operation by the president of the North American Company.

4353

I don't think there has been any one thing that has been so far-reaching, not only for the welfare of the employees, but for the benefit of the company, than the establishment of Employees' Mutual Benefit Association at that time.

In the year 1918, the membership had grown to a point where it included most of the employees of The Milwaukee Electric Railway & Light Company as well as many of the employees of Wisconsin Gas & Electric Company and other affiliates.

4354

Gould W. Van Derzee—By Respondents—Direct

The benefits offered had been expanded materially and in addition the association had undertaken a new venture, name—

—1,938—

ly employee representation and collective bargaining.

The latter activity and increased costs of providing a greatly expanded program of benefits necessitated the support of all of the employees.

In the year 1918, membership was made a condition of employment. What happened at that time was really something like this: The Company said to the Association, "You do all the employing; you provide all the people that are going to work for the company; you see that they are given educational facilities, that they are selected properly. Make one of the conditions of employment that they must belong to the Association" and that was the arrangement that was finally voted by the E. M. B. A. and a contract was entered into between the company and what I call E. M. B. A. for short, meaning the Employees' Mutual Benefit Association.

(Discussion off the record.)

4356

A. (Continuing) The contract which was entered into between the company and E. M. B. A. was known as a general labor contract and it constituted E. M. B. A. as the employing agent for the company.

That, of course, doesn't mean that E. M. B. A. could employ any type of person that was distasteful to the company and which it did not need. It meant that it was the employment manager and operated the employment office and pursuant to requisitions for employees needed by the company to the E. M. B. A., the E. M. B. A. employment office

—1,939—

Gould W. Van Derzee—By Respondents—Direct

4357

proceeded to employ those people pursuant to predetermined specifications.

The general labor contract provided in addition that every group of fifty employees could be represented in collective bargaining with the management and that was one of the first instances that I know of in which a public utility entered into collective bargaining which really became quite general in 1934. In the year 1934, employee representation and collective bargaining activities of the Employees' Mutual Benefit Association were discontinued.

4358

(Discussion off the record.)

A. (Continuing) The so-called general labor contract was entered into in 1918 and as a result of suggestions of the North American Company. As the Association now stands, it provides social and recreational programs, together with the following benefits:

Death benefit of \$300.00; a sick benefit of \$1.00 a day; hospital benefits of \$2.00 per day for room and board and an allowance of \$20.00 per case up to a maximum of \$40.00 in one year toward additional hospital charge; free medical services to members and dependents including X-ray and pathological services and dental services at cost.

4359

The Association also carries on relief and welfare work among members and former members. Membership dues are now 75 cents a month. This amount is matched by an equal contribution on the part of the companies for the members

—1,940—

which are employees of such companies.

4360 *Edward H. Schmidtman—By Respondents—Cross*

The Examiner: We will finish with Mr. Schmidtman now.

Whereupon, EDWARD H. SCHMIDTMAN having been previously sworn, resumed the stand and testified further as follows:

Cross Examination by Mr. O'Dell (Continued):

4361 Q. The Wisconsin Gas & Electric Company and Wisconsin Electric Power Company have similar types of demand?

A. Yes, generally they have. There is some variation in the time of occurrence of their annual peaks, but they both serve somewhat the same type of territory, although the industrial component of the load served by Wisconsin Electric Power Company is substantially greater than that of the load served by Wisconsin Gas & Electric Company. —

As a result of this slight difference there is some diversity between the time of occurrence of the annual peaks on the systems of the two companies.

4362 Q. I believe, Mr. Schmidtman, that you had previously testified that the loads of the two companies fitted together.

A. Yes, they do. Now, perhaps I should elaborate on what I just said. You will notice from my testimony that Wisconsin Gas & Electric Company serves a much larger rural area than does Wisconsin Electric Power Company and a

—1,941—

much larger number of rural customers.

The characteristics of that load naturally have some influence on the characteristics of the load of the system of Wisconsin Gas & Electric Company as a whole and the com-

binning of the load of that company with the load of Wisconsin Electric Power Company results in a composite system load which has a higher load factor than would have the loads carried by either system alone.

It would be most unusual for two systems serving types of loads with the differences I have just pointed out and not have a composite load of much more desirable characteristics than those of each one of the individual parts.

Q. Could the present interconnections between the three companies continue just as usefully and economically if the three companies were not subsidiaries of the North American Company?

4364

Mr. Browning: Just a moment. Could that question be clarified as to whether you mean that the three companies would be completely independent of each other? Do you mean that the three companies would be subsidiaries of some other holding company or that the three companies would be severed from each other?

Mr. O'Dell: I believe I will clarify it to the extent of saying that if the three companies were completely independent of each other.

4365

—1,942—

The Witness: No. The interchange or interconnection arrangements between the three companies would not continue to operate as they operate at present without the community of interests that exists between the companies.

4366

*Edward H. Schmidtman—By Respondents—Cross**By Mr. O'Dell:*

Q. Would you say that certain economies would be lost without this community of interest? A. Certain economies would be lost because the type of operation without the common interest would be changed. I can illustrate that—

4367

Q. (Interposing) All right, go ahead. A. (Continuing) —very specifically, that in the interchange of power between the Wisconsin Michigan Power Company and the Wisconsin Electric Power Company, there are times of the year when Wisconsin Michigan Power Company is delivering large quantities of surplus hydro-electric energy into the system of Wisconsin Electric Power Company.

I have explained that the purchase of that surplus hydro-electric power results in economies to Wisconsin Electric Power Company as well as to Wisconsin Michigan Power Company, but the advantages to Wisconsin Electric Power Company are not of uniform magnitude throughout the periods of delivery of that energy.

4368

At certain times during the periods of delivery, the loads on the steam power plants of Wisconsin Electric Power Company are lowered to such a point that those plants are

—1,943—

operating at greatly reduced efficiencies.

If it were not for the fact that the Wisconsin Electric Power Company and Wisconsin Michigan Power Company were operating in effect as one company, Wisconsin Electric Power Company would not be willing to take that surplus hydro-electric energy in such quantities as to cause such great reductions in steam generating efficiency.

Edward H. Schmidtman—By Respondents—Cross

4369

The receipt of such power would be reduced by Wisconsin Electric Power Company. The delivery of that power by Wisconsin Michigan Power Company would correspondingly be reduced and the water used in generating the energy which would be discontinued at that time, would be spilled over the dam and the electricity represented in that water would be lost.

Wisconsin Electric Power Company could, at certain times, realize some economies by not accepting that surplus hydro-electric power and would, therefore, improve its own position to some extent, but that improvement would not be as great as the loss to Wisconsin Michigan Power Company through not being able to generate that electricity and sell it.

4370

The net effect under such circumstances would be an economic loss, as applied to the entire interchange arrangement. That is, the one company would lose more than the other company would gain.

Mr. Browning: Read that last.

—1,944—

(Whereupon, the answer as above recorded was read by the reporter.)

4371

The Witness: By the one company, I refer to Wisconsin Michigan Power Company and by the other company I refer to Wisconsin Electric Power Company.

By Mr. O'Dell:

Q. I just want to clear something up from what you have just said. Is the effect of this interconnection between Wisconsin Michigan Power Company and Wisconsin Electric

4372

Edward H. Schmidtman—By Respondents—Cross

Power Company one where the Wisconsin Electric Power Company suffers by this interconnection? A. In total, no. There are times when the surplus hydro-electric energy delivered to Wisconsin Electric Power Company can be taken into the power supply of that company advantageously, but, as I have explained, the advantages of taking that power into the system of Wisconsin Electric Power Company do not run uniformly throughout the year.

4373

At times, the advantage is great, at times it is small, but it isn't a question, as the interconnection now operates, of whether Wisconsin Electric Power Company is making money or not, as long as both companies together are gaining benefit.

So, at the times when the load on the system of Wisconsin Electric Power Company is low, during the high flow season, in the early morning hours, for instance, and particularly during certain hours on Saturdays and Sundays, the loads on the steam plants of Wisconsin Electric Power Company

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4374

fall to most uneconomic levels because the company is taking into its system those large quantities of surplus hydro-electric energy from the north.

At other hours of the day, when the loads on the system of Wisconsin Electric Power Company are higher and there is sufficient demand to load up the units in operation to efficient loads, and at the same time utilize this surplus hydro-electric energy, then the receipt of that energy is beneficial to Wisconsin Electric Power Company to an appreciable extent.

What I am trying to make clear is that the advantage of using that surplus hydro-electric energy varies in accordance

Edward H. Schmidtman—By Respondents—Cross

4375

with load conditions on the system of the receiving company. If those companies had no common interest and each was looking out entirely for its own interest, the company receiving that surplus hydro-electric energy would take it only when, as and if it wanted it regardless of whether the other company was spilling water and was urgently in need of a market for such energy.

Under the present arrangements, the energy is generated and a market is found for it in order to make use of the natural resource available in that falling water.

4376

Q. I believe you stated that in 1935, interconnection with the Public Service of Northern Illinois was discontinued.

A. Yes, I did state that.

—1,946—

Q. Why was it discontinued? A. It was discontinued at the insistence of Public Service Company of Northern Illinois.

Q. Do you know what their reasons were?

Mr. Hamilton: I don't know whether the witness is competent to testify as to what may have gone on in the minds of the officers—

4377

The Examiner: (Interposing) He just asked him if he knows.

Mr. O'Dell: If he doesn't know he can say so.

Mr. Hamilton: All right.

The Witness: I understand by hearsay that the reason was that that company did not wish to engage in interstate commerce.

4378

*Edward H. Schmidtman—By Respondents—Cross**By Miss Calkins:*

Q. Mr. Schmidtman, on your direct examination, did you describe all of the inter-company servicing which exists between the Wisconsin-Michigan group of properties which your direct testimony covered? A. Probably not. I intended to describe the principal ones and it is entirely possible—in fact, it is entirely probable—that there are other inter-company relationships involving the joint use of property or the joint use of personnel which I didn't cover.

4379

Mr. Browning: If I may interject there, Miss Calkins, we are going to put in a great deal of additional testimony on that topic.

—1,947—

Miss Calkins: Will the additional testimony also cover the method of allocating charges for all this servicing? Mr. Schmidtman barely touched on that in connection with some joint offices of Wisconsin Gas & Electric and Wisconsin Electric Power.

4380

By Miss Calkins:

Q. I believe that was covered in your testimony? A. Yes.

Q. And this research department was paid for by all the different companies to maintain the research department of the company with which you are connected?

(Discussion off the record.)

Miss Calkins: I only want to get this straight. Some place in this record, either at the present time or on cross examination of Mr. Schmidtman, or on the

Edward H. Schmidtman—By Respondents—Cross

4381

direct testimony of other witnesses, or their cross examination, I want this record to show a complete description of the inter-company servicing and the method of allocating the costs of that servicing among the various companies.

Now, if that will be a little bit later, I won't examine Mr. Schmidtman on it.

Mr. Hamilton: I think the record will show that in almost every instance, at least which I have in mind at the moment, the statement was made that that was paid for at cost. 4382

Miss Calkins: The method of determining that cost is another question.

—1,948—

(Discussion off the record.)

By Miss Calkins:

Q. Mr. Schmidtman, are you familiar with the method of allocating the costs of maintaining the joint offices of Wisconsin Gas & Electric Company and Wisconsin Electric Power Company? A. That is right. 4383

Q. Which you have previously referred to in your direct testimony? A. Yes, I am familiar with those matters.

Q. Will you state the method of allocating the costs? A. The joint offices to which you refer are those located in Racine where Wisconsin Gas & Electric Company and Wisconsin Electric Power Company share the office buildings owned by Wisconsin Gas & Electric Company and make joint use of office facilities owned by that company and of personnel on the payrolls of both companies.

4384

Edward H. Schmidtman—By Respondents—Cross

Each year a survey is made of the use of floor space and of office facilities and of office personnel in carrying out the operations which are performed jointly by the companies in these offices.

The work performed by each individual who is doing work jointly for the two companies is studied to determine how much of his output is devoted to the service of each company, and the salary of the individual is divided between the two companies on a percentage based on that division

4385

—1,949—

of work.

In the case of floor space, measurements are made to determine how many square feet of floor space on each of the floors of each of the buildings, of which there are three, is used by each company.

4386

The investment in each building is taken into account to determine proper fixed charges on each of the properties. Those fixed charges are divided between the various floors in proportion to the value of those floors for the purposes for which they are used and the floor space on each floor is then assigned to each of the companies in accordance with the space actually utilized by each.

From those figures, the rental for land and buildings is computed as of conditions obtaining at the end of October in each year.

The wages are divided, as I have indicated, on the basis of output of the people. That can be illustrated by taking a billing clerk as an example. The billing clerks make out the bills for the electric and gas service of Wisconsin Gas & Electric Company and for the electric service of Wisconsin Electric Power Company.

The number of bills produced by each clerk for each of the companies furnishes the basis for dividing the wages of that clerk between the two companies.

Q. Is that for the previous year or for the forthcoming

—1,950—

year at the time that survey is made? A. The survey is made at the end of October, covering use of floor space and facilities at that time, but the division of payroll is based upon the previous month's output of the personnel involved in the joint operations.

4388

Q. So there is a reallocation of the payroll every thirty days? A. No; the division of payroll and of rental that is worked out at the end of October becomes effective on the first of January next succeeding and remains in effect for the following calendar year.

The period between October 31 and January 1 is allowed in order to give sufficient time to make the survey and make all the computations and complete the report.

Q. There is a reallocation yearly? A. An annual reallocation of those charges, yes.

4389

Q. And each company pays for the forthcoming year on the basis of the work done for the prior year and over a period of years that is supposed to balance things, is that correct? A. Yes, that is correct. The basis of allocation for any calendar year is the report prepared as of October 31 of the preceding year.

Q. Then, is every individual jointly employed by those two companies paid on that same basis? I mean, does that method apply to everyone of the joint employees? A. That

—1,951—

4390

Edward H. Schmidtman—By Respondents—Cross

method applies to everyone of the joint employees working in the Racine offices.

There are other joint employees in sales work who are not included in this arrangement and whose wages are divided between the companies on the basis of direct hours devoted to the work of each of the companies.

4391

Q. Is there any general overhead which has to be allocated? A. In the case of the wage and rental agreement, there is no general overhead because the agreement—and by the wage and rental agreement, I refer to the annual revision of the division of wages and rent for the Racine offices—that agreement is made in sufficient detail to cover all components of cost involved in the joint operations.

It includes the salaries of all people as far up as the Racine Division manager, who devotes a part of his time to the electric operations of Wisconsin Electric Power Company and to the electric and gas operations of Wisconsin Gas & Electric Company.

4392

The rental for buildings includes no item referred to as general overhead because it includes fixed charges directly and it includes all expenses of operating and maintaining the buildings as direct operating expense.

Those components of operating expense are included as a part of the amounts paid under the name of rental for buildings.

—1,952—

Q. Is this inter-company arrangement, of which we have just spoken, under the jurisdiction or supervision of the local Commission there? A. Under the jurisdiction of the Wisconsin Public Service Commission.

Edward H. Schmidtman—By Respondents—Cross

4393

Miss Calkins: I think that is all.

The Witness: The general contract under which this joint use is made of facilities and personnel, is filed with the Public Service Commission of Wisconsin and the filing states the basis under which the arrangement operates and also states that it is revised annually on the basis I have just described.

By Miss Calkins:

Q. There is no possible profit to either of the participating companies that would arise by virtue of that? A. No, there is no possible profit. In fact, the agreement is worked out each year by the operating research bureau. The labor devoted to the investigation and preparation of the report is divided equally between the companies on an hourly basis. After the report has been finished, it is submitted to the officers of Wisconsin Gas & Electric Company for approval before being made effective.

4394

Their auditors check over the report in detail and the rentals set forth in the revision are made effective only upon approval by both companies.

4395

Q. Do these joint employees get two checks then? A. No.

—1,953—

The joint employees are paid by one company or the other, but a monthly billing is made by Wisconsin Gas & Electric Company to Wisconsin Electric Power Company because the latter company makes use of more personnel and facilities of the former than does Wisconsin Gas of Wisconsin Electric Power Company.

The net amount due Wisconsin Gas & Electric Company is billed monthly to Wisconsin Electric Power Company and

4396 *Edward H. Schmidtman—By Respondents—Redirect*

is paid. Some of the employees who do work for both companies are on the payroll of Wisconsin Gas & Electric Company and some are on the payroll of Wisconsin Electric Power Company, but, as I say, the buildings belong to Wisconsin Gas & Electric Company and more of the joint personnel are on the payroll of that company, so the monthly payments go to that company.

Miss Calkins: I think that is all.

4397

We would like to reserve the right to recall Mr. Schmidtman if it becomes necessary at any later time in the proceedings.

Mr. Hamilton: We understand that it isn't necessary for us to note our objection to that procedure.

The Examiner: Yes, I think our understanding is clear, but I think this witness here ought to be fully cross examined. This company ought not to be required to bring him back at its expense.

(Discussion off the record.)

—1,954—

4398

Redirect Examination by Mr. Browning:

Q. Mr. Schmidtman, you were cross examined about the benefits resulting to Wisconsin Electric Power Company, Wisconsin Gas & Electric Company, and Wisconsin Michigan Power Company, from their inter-company purchases of power. Do I understand correctly that in making the arrangements which have been made you consider the three companies as one and that the operations are for the benefit of the entire group? A. Yes. That was the basis for the

entire arrangements for the interchange of power between the companies of the group.

Q. Counsel asked you whether there were "certain economies" due to the close association of the companies and you replied that there were certain economies. Are those economies small or substantial? A. They are substantial.

Q. Would there be a large loss if the three companies were severed? A. Yes, that loss would be large. It would be difficult to estimate it in so many dollars, but it would be an appreciable amount because, as I have explained, the nature of the operations of the companies has been based entirely on the assumption that they have a common interest and so far as power production and transmission is concerned, they operate as one system.

4400

—1,955—

Mr. Browning: That is all.

The Examiner: Anything further, Mr. O'Dell?

Mr. O'Dell: Do you mind reading Mr. Browning's last question and the answer, Mr. Reporter?

(Whereupon, the last question and answer above recorded was read by the reporter.)

4401

Recross Examination by Mr. O'Dell:

Q. When Mr. Browning used the word "severed" in his question, did you take that to mean that the three companies are no longer being subsidiaries of The North American Company? A. I understood him to mean that the three companies would no longer be subsidiaries of any one company.

4402

Edward H. Schmidtman—By Respondents—Recross

The Witness: Is that what you meant, Mr. Browning?

Mr. Browning: Yes. That is, I meant that they would no longer be under common ownership.

By Mr. O'Dell:

4403

Q. Don't you think that regardless of whether these companies are under one common ownership or not, the economies that they have experienced to date through working together the way you have explained would be sufficient to cause them to continue with these same interconnections? A. No, I don't think that is true—definitely. I don't seem to have gotten the idea across that the benefits realized by the companies through their interconnected operations have resulted from a basis of operation which is carried out in the interests of all three companies as a whole.

4404

Because of this basis of operations, the economies realized by one company of the group, let us say, have been reduced somewhat by the consideration given to the welfare of the other companies, to the effect that the total over-all benefits will be a maximum.

If these companies did not have the common interest, which they have, and each one was looking out entirely for itself, they would be less willing to consider the welfare of the others than they have been.

The most concrete example I can give you is the one I have already given concerning the use of surplus hydro-electric energy by Wisconsin Electric Power.

Q. Yes, but didn't you state there that the advantages accruing to the Wisconsin Electric Power Company in peak

times exceeded the disadvantages that Wisconsin Electric Power Company might have suffered at times when demands on their system were not so great? A. Yes, I did and I am glad you put it that way.

Q. So that advantageous effect would always induce the company to go into these arrangements? A. No, you are not right there. The gross advantageous effect would be what the company would get if it were looking out for itself. It wouldn't except the loss during the low load periods that it

—1,957—

4406

is now accepting in order to benefit Wisconsin Michigan Power Company.

Q. You stated though that the net effect between the two companies was one of advantage to the Wisconsin Electric Power Company? A. Yes, it is.

Mr. Hamilton: I think the witness has testified in his direct examination, and has given dollar figures to indicate the benefit to both Wisconsin Electric Power Company and to Wisconsin Michigan Power Company for the years 1938 and 1939.

4407

The Witness: I do want to make it clear though at this point that it is not logical to assume that inasmuch as both companies benefited from this arrangement and also inasmuch as the operations were carried on so that the joint benefit of both companies was a maximum, that each company received the greatest benefit it could have obtained had it not considered the welfare of the other.

Wisconsin Michigan Power Company received appreciably more benefit from this interchange because

4408

Edward H. Schmidtman—By Respondents—Recross

of the fact that Wisconsin Electric Power Company considered the interests of Wisconsin Michigan Power Company in taking off the hands of the latter company the surplus hydro-electric energy which it had at a time when Wisconsin Electric Power Company was not particularly anxious to use it.

—1,958—

By Mr. O'Dell:

4409

Q. Aren't there other situations as a result of this community of interest, where, we will say, Wisconsin Electric Power Company benefits perhaps at the expense, in a particular situation, at the expense of the Wisconsin Michigan Power Company? A. If you mean by benefiting at the expense of the other, the sale of service to the other at a reasonable price, the answer is yes. If you mean benefiting unfairly to the detriment of the other the answer is no.

4410

Q. I don't mean to infer that there is any ultimate detriment to the company as a result of any sort of agreement between the two companies. A. There is no question but what the arrangement is beneficial to all of the companies. That is the intent of the arrangement.

Q. My question originally was this: That in view of this arrangement, of the benefits that accrue to all of these companies because of the close relationship and the agreements, and so forth, that exist between the companies, wouldn't those things continue in effect without having all of these companies being subsidiaries of The North American Company? A. The answer is still no, definitely.

Gould W. Van Derzee—By Respondents—Direct

4411

Q. Aren't these economies that these companies have experienced in the past sufficient to induce them to continue it

—1,959—

regardless of whether they are under common control or not?

A. The net results would be different because under the type of operation that these companies carry on, one company is willing to accept less of a benefit in order that the total benefit realized by the group may be more.

If the group interests were not present as they are, that consideration would not enter into the arrangements.

4412

Mr. O'Dell: Mr. Examiner, I have no other questions.

The Examiner: All right. Have you anything further, Mr. Browning, or Mr. Hamilton?

Mr. Browning: No.

(Witness excused.)

(Discussion off the record.)

The Examiner: We will take a short recess.

(Whereupon, a short recess was taken.)

4413

Whereupon, GOULD W. VAN DERZEE having been previously sworn, resumed the stand and testified further as follows:

Direct Examination by Mr. Browning (Continued):

Q. Will you tell us about the Employees' Mutual Savings Building & Loan Association? A. I happened to have been the first president of that Association and I recollect quite

4414

Gould W. Van Derzee—By Respondents—Direct

distinctly some twenty-six years ago in 1914, going around
—1,960—

to the car stations in different locations of employees on the property, and telling them about the advantages of starting what was then called a Building & Loan Association; it was an idea that Edwin Gruhl had that he thought would be of great benefit to the employees of the company.

4415

I remember he had a dummy of articles of incorporation worked up and an insignia on the back of it of a dollar sign that was made up of two letters, systematic savings. He really originated the idea and set us to work on the formation of the Association.

Q. Who was Mr. Gruhl? A. Edwin Gruhl was later president of The North American Company, but at that time, I believe the records will show, that he was assistant to the president or he might even have advanced to vice president. I can't remember. But he was one or the other.

4416

The Association was finally established on March 28, 1914, and I remember very distinctly the qualms that I had of getting up and making a speech to a large body of employees with the president of The North American Company sitting in the front row.

They were very close to the property at that time, as they have been most of the time.

The Association was finally established under the banking laws of the State and it grew over the years to be the
—1,961—
second largest savings and loan association in the State of Wisconsin.

It has the unique record of never having to defer a demand on the part of a paid-up stockholder or instalment stockholder for withdrawal of funds.

It went entirely through the depression without stopping payment of any kind and paid dividends at a reasonable rate. It is highly regarded by the employees of the company as an investment medium.

I do not mean to indicate that it did not suffer some severe losses in the depression in the form of properties that had to be taken back and resold, but it had a better record because most of the membership was made up of employees and former employees.

4418

On June 30, 1940, there were 6,687 stockholders who held a total of 134,711 shares of stock. On the same date, the Association held 1,617 mortgages most of which were on homes of employees or former employees.

In encouraging the establishment and growth of this institution, the management encouraged thrift and home ownership among employees as one of the aids in bettering employee relationships.

Q. What were the total assets of the Association on June 30, 1940? A. \$6,330,506.00.

4419

Q. Now, will you tell us about the gain-sharing plans of —1,962— the companies? A. The term "gain-sharing" plan is used by our companies to mean what is popularly known as a bonus plan.

In 1911, the first wage incentive plans were put into the shops. Those plans were essentially a piece rate for machine operations. They were not particularly satisfactory. They

4420

Gould W. Van Derzee—By Respondents—Direct

were followed by a premium plan in the shop which has been satisfactory.

About in 1913, someone got the idea that it would be a good thing to increase the number of bonus plans and apply them to almost every operation where the output could be measured and one of the early ones I recollect was in the meter reading department.

4421

We made careful studies of the amount of time required to read meters, then we concluded that if the meters could be read accurately in less time by any individual on his route, that it would be proper to divide the net savings between the individual and the company 50-50 after subtracting some 20 per cent. of the net gain for administration of the plan and that generally is the basis that has been followed for a great many years.

We have very substantially reduced the cost of meter reading by that incentive plan.

4422

A demand for bonus plans grew rapidly after the establishment of the first ones and in February, 1928, 84 per cent. of the employees of The Milwaukee Electric Railway & Light Company were participating in bonus plans and a

—1,963—

substantial number of employees in the Wisconsin Gas & Electric Company were working on similar plans.

On May 31, 1940, 70 per cent. of the employees of the Wisconsin Electric Company and 59 per cent. of the employees of Wisconsin Gas & Electric Company were participating in bonus plans.

On the same date, there were 175 bonus plans in operation in the two companies. Bonus earned by employees now ranges from about 3½ per cent. to 50 per cent. of their

guaranteed wages and their variation is due to differences in the ability of the employees, differences in supervision, and to many other conditions affecting the quantity or quality of the work done.

In the year 1939, bonus payments made to employees of Wisconsin Electric Power Company amounted to a large figure of \$647,150.00 and that was in addition to their basic wages and was an average of about \$320.00 per employee.

That has nothing to do with what is commonly known as a year-end payment made by some companies and called a Christmas bonus. 4424

This is the result of meeting the standards of work which have been set by an amount, the value of which is divided between the company and the employee, after taking away 20 per cent. for administration.

Plans have been established on jobs of almost every description. The fundamental basis for the establishment of any of these plans may be either a time allowance for a specified routine operation, accuracy and quality of the work or a combination of both. —1,964— 4425

I have given you an example of the basis for measurement of time plan; an example of a quality plan is the plan in effect for sub-station and power plant operators which provide that a certain bonus will be paid if controllable outages are reduced below a certain limit.

Additional bonus is paid on the plan if material and supplies consumed are below a certain amount, if costs of maintaining equipment are held below a certain figure and if errors on load sheets are reduced below a certain standard.

4426

Gould W. Van Derzee—By Respondents—Direct

Bonus plans operated in these companies have been some of the most successful ones developed, we believe, anywhere in the country and their success is attributable to the fact that they were developed only after a very careful study and were designed on sound principles.

4427

They have been fair to the employees and have received their support. Probably Mr. Schmidtman had something to say in his testimony about these matters. But I recollect that in my statement of the different divisions of the operating research bureau, that is one of the divisions that was devoted to the maintenance of these plans.

Obviously, you must keep right after them and if the condition changes by the introduction of a machine or you

—1,965—

decide to do something in a different manner, you must correct the plan promptly and intelligently.

Now, actually, we have an agreement with the unions with which we operate so that no changes are made in these plans unless they have the approval of the union and the department head of the company.

4428

There is a by-product of these plans that I want to discuss very briefly and that is one of the determination of unit costs. We have studied with time study men over and over again most every operation that is performed in carrying on the business of electric service.

It is natural that we get a very large collection of unit costs. Those unit costs, I think, have been very valuable to us in determining whether work is done effectively. They help us in estimating for one thing what the cost of future projects will be, where those projects are of a construction nature.

Gould W. Van Derze —By Respondents—Direct

4429

There is another by-product which isn't generally recognized and which may have something to do with what I believe to be the relatively low unit cost we have in many operations and that is when an employee knows that if he slackens work, if he does poor work, he is going to have something taken off of a component of his wage, he is likely to put forth his best effort in his own interest.

That, in a measure, tends to minimize the necessity for
—1,966—

supervision and if there is any one thing that these plans do, they tend in a measure to supply a certain degree of automatic supervision.

4430

I don't want to leave the impression that you can establish a bonus plan and then tell the boys to go to work and supervisors can go home. They can't. You have to have proper and adequate supervision, but I think the amount of it is lessened because of the interest that the employee has from a dollars and cents standpoint in doing his best work.

So I think that these plans may be added very logically to the list of things that has tended to improve employee relations.

4431

Q. Do you have any pension plans? A. In 1912, when the Employees' Mutual Benefit Association was formed, a pension plan was adopted for the employees of The Milwaukee Electric Railway & Light Company and The Milwaukee Light, Heat & Traction Company, as a part of its activity. The pension plan was established, naturally, for the purpose of providing a retirement income for employees who were beyond a certain age or incapacitated in service.

The plan provided pensions for employees of 60 years or older, having fifteen years or more of service at that time,

4432

Gould W. Van Derzee—By Respondents—Direct

and there were disability pensions for employees under 60 having fifteen years or more of service.

The disability pension has to be approved by the medical
—1,967—

director and he has to assert that the man is incapable of further work and under those conditions he receives the same magnitude of pension that another man who is older would receive under similar basic conditions of wages, but only for a period of 14.1 years.

4433

From the beginning, the companies undertook to provide the money for the pensions and they have supported the plan down to the present time.

The original plan in 1912 made no definite provision for a trust fund, but in October, 1922, the agreement generally under which we are operating now was executed between the companies on the one hand, a trust company, and the E. M. B. A. on the other.

4434

This provides for the company contributing to the pension fund as later modified, three-quarters of one per cent. of the operating revenues of the company, and the payment of pensions after certification by a pension board. At the present time, Wisconsin Electric Power Company and The Milwaukee Electric Railway & Transport Company have 275 pensioners and Wisconsin Gas & Electric Company has fifteen.

Wisconsin Michigan Power Company is a much younger company and so far hasn't felt the need for a pension system.

We have another association which we think is productive of good employee relations and that is the veterans

association. We think it has encouraged somewhat sustained employment.

—1,968—

On September 18, 1916, the veterans association was formed to provide an organization without dues for employees of The Milwaukee Railway & Light Company, Milwaukee Light, Heat and Traction Company, and their associated companies, for employees who had been continuously in service for a period of twenty years or more.

The veterans association embraces employees from all three companies. As a matter of fact, it embraces the employees of all four companies, but we are dealing here primarily with the electric utilities and the three companies that are referred to here are Wisconsin Electric Power Company, Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company.

4436

Q. And the fourth company was a transport company?

A. Yes. And on June 30, 1940, Wisconsin Electric Power Company had 417 veterans, Wisconsin Gas & Electric, 108, and Wisconsin Michigan Power Company, 46, a total of 571 employees of those three companies who, at that time, had been with the companies for twenty years or more.

4437

It is a matter of fact that the employees of the transport company are generally older as they usually are in the older business of transportation, and there are over eight hundred veterans in that company, so that before the separation was made in October of the transportation and the electric business, we had somewhere between one out of four and one out of five employees of the old The Milwaukee Electric Railway & Light Company, who had been in the service of the com-

—1,969—

pany twenty years or more.

4438

Gould W. Van Derzee—By Respondents—Direct

We have a special insignia that I have referred to once or twice as a double veterans' medal. That is really a very artistic thing that the veterans appreciate not so much from that standpoint as for what it really stands for and that is given when an employee has been in the service of the company for forty continuous years.

On June 20, 1940, there were nineteen double veterans in the three companies distributed as follows:

4439 Wisconsin Electric Power Company, 14; Wisconsin Gas & Electric Company, 1; Wisconsin Michigan Power Company, 4.

Among those who have attained such a remarkable record of service are Mr. S. B. Way, president of the three companies; Mr. F. J. Boehm, secretary and treasurer; Mr. James D. Shaw, director and counsel for Wisconsin Electric Power Company. Although Mr. Way's service record, as described with respect to his being a director, shows only twenty-eight years with the company, he has had forty years with associated companies, namely, the predecessor of the Union Electric Light & Power Company where he worked before he was sent by The North American Company to come to Milwaukee.

4440

Q. Have you other associations among employees? A. We have what is called the technical league. The technical league has dues of only 50 cents a month and the aims and

—1,970—

purposes of the technical league is to give to men and women employees who are so interested and want to learn more about the business, an opportunity to come to monthly meetings which are well arranged by the officers of the league and cover important developing factors in the business.

Gould W. Van Derzee—By Respondents—Direct

4441

One of the by-products of this league is an arrangement under which prize papers are submitted by employees who have ideas on useful things that can be tried by the company, and they are given annual prizes for the best papers.

At a recent management staff meeting, the nature of which I described yesterday, we had over twenty-five of those papers which had just been submitted. The purpose of bringing them to the management staff meeting was to talk about them around the table and make certain that every idea that was good was to be adopted, and there were several ideas written by these men down the line which were very good and which are being adopted as standard practice.

4442

We think there is great value in encouraging the development of ideas from the bottom up and in recognizing the production of those ideas suitably.

I have no doubt that the men who developed the ideas which were adopted by the company valued the fact that the staff had looked them over and adopted them much more than the fairly substantial money consideration that went with the winning of the prize.

—1,971—

4443

We have also what we call the Meral Club, which promotes fellowship among women employees. That name "Meral Club" is a hangover from the old Milwaukee Electric Railway & Light Company, M-e-r-a-l being the initials. They still retain the name, although it isn't applicable.

The Meral Club has monthly meetings of a social and educational nature. They have 301 members and a majority of them are office employees of the Wisconsin Electric Power Company.

4444

Gould W. Van Derzee—By Respondents—Direct

We also have labor organizations and it would probably be proper to state here the nature of the labor organizations because we believe that the proper handling of labor matters goes a long way toward good employee relations.

We have the following labor groups which have been recognized as bargaining agents. Sometimes it is quite a task to keep all these negotiations on an even keel.

There are so many different ideas as to what constitutes what they should get by bargaining. We have the Amalgamated Association of Street Railway & Motor Coach Employees of America, Local 998, representing certain employees of the purchasing and stores department of Wisconsin Electric Power Company, and the transportation employees of Wisconsin Gas & Electric Company.

If I were also discussing the transport company, I would say that this same organization represents the employees of that company.

—1,972—

We have the International Brotherhood of Electrical Workers, Local No. 494, representing electrical operating and maintenance workers of the three companies—that is, Wisconsin Electric Power Company, Wisconsin Gas & Electric Company, and Wisconsin Michigan Power Company, who operate in our service area.

There is the United Association of Office, Sales & Technical Employees, Local No. 2, representing office workers and miscellaneous employees of Wisconsin Electric Power Company in Milwaukee.

We have the Public Service Employees Union of Wisconsin, representing office workers of Wisconsin Electric Power Company and Wisconsin Gas & Electric Company in Racine

Gould W. Van Derzee—By Respondents—Direct

4447

and Kenosha. That is, it is primarily a Wisconsin Gas & Electric Company Labor Union, but extends to these employees. —1,973—

We have the International Union of Operating Engineers, Local No. 317, representing the power plant operating and maintenance workers of Wisconsin Electric Power Company and Wisconsin Gas & Electric Company.

Then we have the Gas and By-Products Coke Workers, Local No. 12,005, representing the gas workers of Wisconsin Gas & Electric Company, and, last, we have the Wisconsin Michigan Utility Operators Union, representing gas workers and office workers of Wisconsin Michigan Power Company.

4448

I think I can say that, with the exception of workers above the grade of working foreman, all of the employees of our companies belong to some form of union—A. F. L. sponsored, one C. I. O.; and two or three independents.

A. F. L. sponsored, one C. I. O.; and two or three independents.

Although there are many problems to handle in connection with such a large number of unions, with very naturally different views on matters, we have been reasonably successful in showing them and having them agree that a certain degree of uniformity and basic labor philosophy, in its application to our group, is the thing.

4449

Various organizations and means discussed above have all contributed to good employee relations, and no doubt have been a big factor in the stabilization of employment.

In addition to this, we have always maintained a good wage standard and we have always tried to maintain a policy of fair dealing with our employees.

—1,974—

4450

Gould W. Van Derzee—By Respondents—Direct

I think the following tabulation, showing the approximate length of service of employees of these companies, is some evidence of results achieved, and I will give you just a few figures which can be readily taken down.

This refers to the number of regular employees of the companies:

In the three companies, the record shows that the length of service in years between zero and five years is such that 30 per cent. of employees are in that range.

4451

There are 12 per cent. of the employees in the range of six to ten years, 26 per cent. in the range eleven to fifteen years of service, eighteen per cent. who have been with us from sixteen to twenty years, and fourteen per cent. who have been with us over twenty years.

Mr. Browning: We will now take up all of the various companies in the group, and the different businesses in which they are engaged.

4452

Of course, some of these companies, such as the three electric companies, have already been described in considerable detail, so that we need not go into the electric business at this point.

By Mr. Browning:

Q. Will you cover, briefly, Mr. Van Derzee, the companies which are included in the Wisconsin Michigan group of subsidiaries of The North American Company, indicating

—1,975—

briefly the nature of the business of each? A. Wisconsin Electric Power Company is engaged principally in the generation and transmission, distribution and sale of electrical

Gould W. Van Derzee--By Respondents--Direct

4453

energy, but it also engages in some other operations incidental to the rendering of electric service. It operates a steam heating utility.

The area served by Wisconsin Electric Power Company with steam heating is not large, and it includes only a section of downtown Milwaukee; at the end of June 1940, there were 968 steam customers.

At the same date, the Company owned 21.22 miles of steam mains.

During the year 1939, to show you the magnitude of the system, there were sold 1,308,456,000 pounds of steam, from which sale the revenues derived were less than 2.7 per cent. of the total operating revenues of this company as compared with 2.9 per cent. in 1930.

4454

Q. Are the heating operations of the Company valuable to the electric business? A. We believe that they are, and, to bring out the point, it may be advisable to review a little history about the developemnt of steam heating utilities.

The prime movers in the early days, which furnished the power for the electric generators, were principally re-

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ciprocating engines, and the exhaust steam from those old engines was usually sent out to the atmosphere.

Later, crude types of condensers were used to increase the economy, but electric utilities found that the exhaust steam could better be used in a steam heating system, and there was a real demand for that type of service.

After the service was established, many buildings were built in the downtown area, without any provisions for local heating, and consequently it was quite natural that the busi-

4456

Gould W. Van Derzee—By Respondents—Direct

ness expanded, and that it took on some air of having public convenience and necessity.

The steam heating business is now operated by Wisconsin Electric Power Company, and it is a valuable adjunct to the electric operations.

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There is a sales aspect in connection with this, that might be discussed at this time, and the nut of that is that, if customers in downtown buildings have a means of getting steam, they are less likely to generate their own electricity, while, if they do not have a means of getting purchased steam, they have to put in boilers anyway, and they can merely enlarge the boilers and buy an engine and generate their own electricity. While they may not have been what was in the minds of the original promoters of a steam heating distribution system, it very decidedly is a means of keeping the electric business in the downtown area now.

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4458

Q. Have you any new developments in steam turbines, which have coordinated the steam heating and electric operations of the Company? A. Yes, we have several. In the year 1938 a new steam turbine was installed at the East Wells Street Power Plant, having a capacity of 13,700 kilowatts, and that machine was designed as a by-product turbine, so-called, because the steam was generated at a high pressure and passed through the turbine, obtaining work from it, and then exhausted into the heating system at a pressure of approximately 25 pounds.

By the addition of a comparatively small amount of energy in the heat, to raise the pressure to 650 pounds at which the boilers operate, you are able to take out a tremendous amount of energy in expanding that steam down

the pressure of the heating system, through the medium of the turbine, which generates the electricity, and the steam that is left is, for all practical purposes, just as good for heating operations as if it had been developed in a separate boiler entirely, for that purpose.

We are now putting one in at Commerce Street, having a capacity of 35,000 kilowatts.

That turbine will be installed the latter part of 1941. It is called an extraction type turbine, and we not only take steam off at around 25 pounds for the low-pressure heating system, but we can take it off at 160 pounds for other uses. 4460

—1,978—

Those other uses would be the transmission of high pressure steam in feeders out long distances to points where the main pressure was sagging.

Something like the analogy in the electric transmission system, where you send out high tension energy to a low tension system, to improve the voltage.

Also, we have a few customers who are buying high pressure steam for various purposes and, for that purpose, we have a set of high pressure mains which are tapped for such customers. These two developments indicate very clearly that steam and electricity are produced together. 4461

They could not be separated with advantage to the system. There would be serious losses of economy if it were necessary to separate the steam distribution system from the source of supply at the exhaust of the turbine.

This is very helpful to the consumer. I think it is evident that the city is cleaner, having two large stacks with controlled smoke, than if each one of these 968 customers had smokestacks giving off black smoke.

4462

Gould W. Van Derzee—By Respondents—Direct

We know that the small individual smokestack is not regulated like the big stack of a public utility.

Also, there is less traffic on the streets on account of hauling large quantities of coal to our plants at night than there would be if coal were being supplied to 968 separate boiler plants.

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So there is a very definite civic betterment involved in this.

4463

Customers are, of course, not so much interested in that as they are in the savings that result from joint electric and steam operation, and that comes about by virtue of the fact that the cost of a single steam boiler and extraction turbine, designed to provide the joint functions of electric generation and steam production, is a great deal less than if you were to install a separate heating plant and a separate generating plant.

The economy goes beyond any question of plant investment, which is substantial.

4464

We find a great economy in the joint force that operates the turbine within the plant.

The fact that steam is sent out to the heating system, for example, as well as generating electricity before it goes to the heating system, does not add any particular responsibility to the man that is operating the turbine. You don't have more men operating a turbine on account of that, and hence there is an economy in labor in the plant.

All the way through the plant you have the same economy because the same force has its time charged into two operations, and that economy in labor also extends to economy

in supervision outside of the plant, all the way up to the officers.

—1,980—

Q. What is Wisconsin General Railway? A. Wisconsin General Railway is a wholly-owned subsidiary of Wisconsin Electric Power Company, which was formed for the purpose of acquiring title to real estate.

One of the principal advantages of the subsidiary was in connection with purchases of rights of way for transmission and railway lines, or pieces of property for sub-stations. I think it is common knowledge that a public utility going into the market can't always disclose just exactly what it is going to do, and hence, of necessity, somewhat larger pieces of land are frequently acquired than would be the case if the Company could buy exactly what it wanted at a reasonable price. 4466

Just suppose, then, that a right of way was wanted across a small farm, the right of way was an extensive one, requiring 200-foot width for, say, a double circuit power line and a parallel 26,000 volt line, and we bought twice as much land, in connection with that operation, as we would have bought if we could have taken the exact slice we wanted and gotten it at a reasonable price. 4467

The practical application of Wisconsin General Railway in a consideration of that kind is that, after buying the entire parcel of land, the property was charged to Wisconsin General Railway property accounts, and then the exact piece needed for the transmission line would be charged to the account of the company that was really going to use the land, and the balance of the price that would be left on the books

—1,981—

of Wisconsin General Railway was estimated to be a figure at which there might be reasonable expectation of disposing of the property at then current markets.

By having the excess land in Wisconsin General Railway, it was easier to sell the land later, because it was not necessary to have the excess property released from the mortgages of the operating utility.

4469 We have been reducing the amount of land as rapidly as sales could be made effectively, and at the present time consideration is being given to applying the net assets of Wisconsin General Railway against the debt to Wisconsin Electric Power Company, which has advanced the money and disposing of the stock.

Q. Wisconsin General Railway has no activities or operations except the rental and management of this real estate?

A. Those comprise all of the operations of the Company.

4470 Q. Now, will you describe for us The Milwaukee Electric Railway & Transport Company? A. The Company which you have just named is a wholly-owned subsidiary of Wisconsin Electric Power Company. It conducts a local transportation business in the metropolitan area and a small transportation business in the city of Racine. The Company has recently disposed of most of its Racine transportation

—1,982—

business, which was done by bus, and has retained only that part which is still provided by street car, and it is expected that that will be discontinued, so that the Company will have, in the near future, no transportation operations in its ownership in the city of Racine.

It also operates interurban transportation service between Milwaukee, Racine and Kenosha; Mill Port, Washing-

ton and Sheboygan; and Milwaukee, Waukesha, Oconomowoc, Watertown and Madison.

In giving that list of cities, to which interurban service is furnished, I am not attempting at this time to state whether it is done by rail service or bus service.

The Milwaukee Electric Railway & Transport Company, commonly known as The Transport Company, presently operates 370 miles of single track.

On this track trolley cars and buses operate over 366 miles of street and highway.

4472

To give you an idea of the magnitude of the business done, during the year 1939, 31,090,018 vehicle miles were operated and 161,380,714 revenue passengers were carried.

The Company operating revenues amounted in 1939 to \$9,291,858.00.

The outlying business of the Company is being reduced—that is, property is being abandoned which is known as interurban property, as fast as it can economically be abandoned.

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Certain lines, which are not paying their direct operating expenses, are the ones to which the Company is directing its attention, so that those losses will be cut off. Within recent months the Company has been able to abandon about 38 miles of single track and rail service to a number of communities, but it has substituted bus service, which is more flexible and less expensive under the circumstances, particularly that a continuation of the roadbed and rail would require considerable expense for maintenance and replacement in the future.

4473

Before the organization of The Milwaukee Electric Railway & Transport Company on October 21, 1938, the opera-

4474

Gould W. Van Derzee—By Respondents--Direct

tions now carried on by this Company, as you know, were part of The Milwaukee Electric Railway & Light Company.

The transportation business of this company and its predecessors preceded the development of the electric utility operations and constituted the foundation upon which the electric business was built.

I don't remember the exact date that electric railways came into operation throughout the country, but I do remember looking out the window one night, when I was a boy, in the city of Green Bay, and seeing the first street car go up Walnut Street, in 1894.

I remember it because I was told to look out to see my father in the car and the Mayor of the city.

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I mention this because I also recollect the power plant where generators were used to provide the motive power for these small street cars which went along the street on two trucks.

They were small steam engines, with very crude generators that were available at that time for five hundred volt service.

Later on, that location and plant became a part of the public utility and it was used as an electric service station and nothing could be more natural than that that would occur. People who operated the street railway business, in general, around the country, knew about the problems of generating steam and handling generators.

(Discussion off the record.)

A. (Continuing) Problems of electric generation also involved installation and handling of steam boilers and elec-

trical equipment, and there were undoubtedly many of the economies that I have previously talked about, in connection with other joint services present in the joint operation of an electric plant for the two services.

Q. As a result, was it generally true, all over the country, that the electric business grew out of the street railway business, or in affiliation with it? A. I think that many instances of that type can be cited, but it would not be correct to say that that was always the case, because, in Appleton, Wis-

—1,985—

consin, where there was a very early railway system, we have the example of the first hydro-electric station.

Perhaps that was operated—I do know now—by the same interests, but it was in a separate building.

The transportation utility, as now constituted, is really a direct benefit to the electric business, in that it is a very large customer for electricity, and imposes an electrical load which tends to improve the load factor of the system.

In the year 1939, the transportation subsidiaries have purchased 92,472,660 kilowatt hours from Wisconsin Electric Power Company.

(Discussion off the record.)

By Mr. Browning:

Q. During the period of decline of the interurban business, have there been instances where properties which would otherwise have been abandoned, have been taken over by the electric business? A. Yes. The electric company has salvaged operations of that type.

As an example, Mequon Stone Quarry, the operation of which has been discontinued by the Transport Company, was

4480

Gould W. Van Derzee—By Respondents—Direct

taken over by Wisconsin Electric Power Company, because it was seeking an advantageous and economical site on which to dump ashes. Mequon Stone Quarry is located between Milwaukee and Port Washington, where the Port Washington power plant is.

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4481

The Port Washington Power Plant has to dispose of ashes. We are about through with one site that we have. Mequon Stone Quarry is right on the transportation lines of The Transport Company, so it is convenient and economical to take the ashes on what are virtually our own tracks, and dump the ashes in this pit, and there is provision for ashes for nearly 25 years.

Q. You have already given us some statistics as to revenues of the Transport Company. Can you give us some other statistics to show its operations? A. Some of this is a slight duplication. The passenger car miles operated, for example, are 16,803,391. The trackless trolley car miles operated, 4,013,693. The bus miles operated, 9,921,897.

4482

Express, freight, and switching miles, 351,037, giving the total vehicle miles operated, 31,090,018.

Those figures are of interest only as a guide to how much of the business is furnished by different classes of service.

Q. Those figures are for the year 1939? A. Yes.

Q. I was going to ask if you could give us some figures as to the equipment of the Company. A. The Transport Company owns 566 passenger cars, 235 buses, 124 trackless

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trolley cars, 41 express and freight cars, 4 tank cars, and 6 electric locomotives.

It has nine stations for housing rolling stock and buses, one shop for construction and repair of equipment, and four express and freight terminals.

Urban transportation service is furnished, as I previously said, in the city of Milwaukee and suburbs, and I gave you the cities where interurban transportation was available.

There are certain cities which are served only by motor bus, which might be included, together with some villages, and they are cities of Fort Atkinson, Jefferson, Kenosha, Madison, Milwaukee and suburbs, Oconomowoc, Racine, Watertown, Waukesha, Sheboygan, and the villages of Cambridge, Chenequa, Hartford, Marshall, Pewaukee, Sullivan, Sun Prairie, Waterloo, Belgium, Cedar Grove, Oostburg. 4484

In addition to the facilities owned, as previously described, there is a 600 volt direct-current distribution system supplying power to railway lines, consisting of approximately 461 cable miles of overhead feeder and 134 miles of cable in underground feeders.

Q. Can you give us some relative percentages of operating revenues to show the decline of the transportation business? A. In 1930, transportation revenues were 36.7 per cent. of total operating revenues, and in 1939, that percentage had declined to 30.1 per cent. 4485

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(Discussion off the record.)

The Examiner: We will recess at this point until ten o'clock tomorrow morning.

(Whereupon, at 4:30 p.m., September 25, 1940, the hearing was recessed until 10:00 a.m. the following morning.)

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4486

BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

4487

Hearing Room 609,
Securities and Exchange Commis-
sion Building,
Washington, D. C.,
Thursday, September 26, 1940.

Met, pursuant to adjournment, at 10:00 o'clock a. m.4488 Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

S. PEARCE BROWNING, JR., and CHARLES S. HAMILTON, JR.,
of Sullivan & Cromwell, 18 Wall Street, New York City,
Attorneys for the Respondents.

HERMAN O'DELL, MISS E. H. CALKINS, and C. M. MAX-
WELL, Attorneys on behalf of the Securities and Ex-
change Commission.

PROCEEDINGS

The Examiner: The hearing will come to order.

Whereupon, GOULD W. VAN DERZEE resumed the stand and testified further as follows:

Direct Examination by Mr. Browning (Continued):

Q. What is Badger Auto Service Company? A. That company is a wholly owned subsidiary of The Milwaukee Electric Railway & Transport Company. It operates automobile parking stations and gasoline filling stations. In carrying on these operations, it makes use of certain non-utility company properties. 4490

Q. Properties of what company? A. Of The Transport Company and also Wisconsin Electric Power Company. It buys all its gasoline from The Milwaukee Electric Railway & Transport Company which has large purchasing power in that connection and happens to be the largest user of gasoline in the State of Wisconsin in connection with its motor bus operations. 4491

Badger Auto Service Company was originally acquired in connection with protection of the interurban lines of The Transport Company and it was later that the idea of using the corporation thus acquired for the purpose of putting to work certain non-operating property, was developed.

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In that way, we believe that better use has been made of properties which might otherwise be idle. The company is being held pending some advantageous disposition of it.

4492

Gould W. Van Derzee—By Respondents—Direct

Q. How many parking and filling stations does the company have? A. About half a dozen.

Q. And is this real estate held for sale? A. Much of the property is held for sale. Some of it is conceivably available for future use.

Q. That is, this property used by Badger Auto Service Company is either held for sale or held for future use of Wisconsin Electric Power Company or The Transport Company? A. Yes.

4493

Q. Now, will you tell us about Motor Transport Company? A. The Milwaukee Electric Railway & Transport Company owns 40 per cent. of the voting stock of a corporation known as Motor Transport Company. This is a trucking company which operates pick-up and delivery service in connection with freight and express business of The Milwaukee Electric Railway & Transport Company.

It also furnishes connecting truck service between The Milwaukee Electric Railway & Transport Company and other railroads and does cross-town hauling between stations of The Milwaukee Electric Railway & Transport Company, on lines where express cars are not permitted to operate.

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Motor Transport Company completes the delivery of goods shipped on the lines of The Milwaukee Electric Railway & Transport Company, but addressed to communities not reached by the railway and brings shipments from such points to the railway.

It also hauls coal to the Commerce Street and East Wells Street Power Plants under a contract which has been approved by the Public Service Commission of Wisconsin.

It is expected that under the contract which there is with the owners of the 60 per cent. of the voting stock, that such owners will ultimately acquire complete ownership of the company and it is thus provided in the contract.

Q. That is, if I understand you correctly, these non-affiliated interests have already acquired 60 per cent. of the stock of the company and are gradually acquiring the balance under the contract to which you refer? A. The contract provides a means by which the balance can be obtained out of the earnings of the corporation.

4496

Q. We have had testimony regarding the electric business of Wisconsin Gas & Electric Company. Does that company also engage in the gas business? A. Wisconsin Gas & Electric Company is engaged in the gas business and furnishes gas to sixty-two communities in southeastern Wisconsin including the cities of Racine, Kenosha, Waukesha, South Milwaukee, Cudahy, Watertown, Fort Atkinson, Oconomowoc, and Whitewater.

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In the City of Waukesha, it also engages in a steam heating business and in Kenosha it operates a small electric railway system.

4497

In Wisconsin, trolley buses are classed as street railways. It is really a trolley bus system.

Q. When did the gas operations of the company start? A. As to the exact date, I can't say offhand, but they started prior to the development of the electric service business.

Before the advent of widespread electric service, gas was used for illumination, cooking and many other functions that are now performed by electricity. Gas and electric

4498

Gould W. Van Derzee—By Respondents—Direct

services are, therefore, associated services and it was quite logical that in the early development of the electric service business, that the gas companies in many parts of the country should expand into the field of electric service.

Generally, the combination of electric service and gas service results in numerous savings in operating expenses, such as combined meter reading, customer servicing, billing and bookkeeping.

4499

Advantages also accrue through the joint use of certain properties such as office buildings, shops, right-of-way and automotive equipment, but I shall not attempt at this moment to indicate all of the reasons why such joint operations are effective and in the interests of the customer because that matter will be taken up a little later.

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Q. Could you give us some indication of the extent of the gas operations of Wisconsin Gas & Electric Company?

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A. The gas utility of Wisconsin Gas & Electric Company presently serves 51,474 customers, the majority of whom are also electric service customers of Wisconsin Gas & Electric Company, and Wisconsin Electric Power Company.

Wisconsin Gas & Electric Company now operates approximately 280 miles of transmission mains and 610 miles of distribution mains and manufactures all of the gas that it sells. During the year 1939, to give you an idea of the size of the business, the company sold 2,001,295,700 cubic feet of gas and these gas operations contributed to revenues to the extent of 27.4 per cent. of the total revenues of the company.

Q. Can you give us the operating revenues by businesses of Wisconsin Gas & Electric Company for 1930 and 1939?

Gould W. Van Derzee—By Respondents—Direct

4501

A. A comparison of the total dollars of electric, gas, railway and heating business and the percent that each bears to the total in 1930 and 1939 is of interest because it shows general trends which are not apparent by comparing one year with the next year or the year before.

In 1930, the electric operations of Wisconsin Gas & Electric Company produced operating revenues of \$3,783,459.00 and these revenues were 61.8 per cent. of the total operating revenues of the company.

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Compare those figures with 1939 for the electric service business in which the electric revenues increased to \$4,541,247 and the percentage to 69.5 per cent. of the total operating revenues.

Gas service in 1930 produced operating revenues of \$2,114,801.00 and were then 34.5 per cent. of total operating revenues whereas in 1939 gas revenues had decreased to \$1,792,200.00 which was 27.4 per cent. of total operating revenues.

The railway operations which I have mentioned but not described produced operating revenues in 1930 of \$189,046.00 equal to 3.1 per cent. of total operating revenues and in 1939 railway revenues were \$168,000.00 and had decreased to 2.6 per cent. of total operating revenues.

4503

The heating business in 1930 produced \$39,673.00 of operating revenue, equivalent to .6 per cent. of total operating revenues, and such revenues for 1939 had decreased to \$32,629.00 or only .5 per cent. of total operating revenues.

Q. Is the gas business expanding in the way of extending mains? A. It would hardly be proper to say that the gas

4504

Gould W. Van Derzee—By Respondents—Direct

business is static. The volume of business is actually decreasing over the years as shown and generally the company is not extending gas mains. It is, of course, endeavoring to develop, as far as possible, the availability of existing gas mains for new customers that are on the mains or near-by

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that want service.

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Electric service is, however, developing quite fast and, aside from whatever may be the desire of the company in the future to more or less curtail the expensive extension of gas mains, I think there will be a natural curtailment in this territory as a result of more electric service being used by customers.

Q. You mentioned the transportation operations of the company. Could you describe those a little further? A. Such services consist only of trackless trolley car operations in the City of Kenosha and possibly a gas bus or two. During the year——

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Q. (Interposing) During the year, what? A. During the year 1939, 867,180 vehicle miles were operated and 3,091,557 revenue passengers were carried. The revenue from these operations constituted, as previously indicated, 2.6 per cent. of the total operating revenues of the company in 1939.

Because of the operating economies and other advantages which it was thought could be realized from joint operation of electric and transportation systems in Kenosha and also because of the growing importance of transportation service, Wisconsin Gas & Electric Company acquired the street railway system in Kenosha in 1912.

The present operations are the outgrowth of that system

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and the company is naturally not seeking to extend it.

The company also operates a small heating business in the City of Waukesha where it renders electric service. It is presently serving 217 customers and operates only slightly more than a single mile of steam mains.

During the year 1939, 38,524,100 pounds of steam were sold. This business, like that in Milwaukee, originated as a means of making use of by-product steam and is being continued in the interests of public convenience and necessity. The steam is generated at the Waukesha Power Plant which is held as a reserve electric generating station. 4508

The steam plant also furnishes steam required for the gas works of Wisconsin Gas & Electric Company. Heating revenues amounted to .5 per cent. of the total operating revenues of the company last year.

There is, of course, the same general character of joint supervision that was described at some length in the case of the Milwaukee steam operations and there are somewhat the same general advantages, although live steam is generated in the boilers which are also required for operation of the gas works most of the time, except when the station may be put into operation in the winter for electric service reserve. 4509

It would be thoroughly impracticable for anyone to go into steam heating business separately in Waukesha or in my opinion in any other place. The business is of minor importance. It is the best example of a completely incidental

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business. We aren't making any extensions; we didn't start the business in the first place. We bought it incident to buy-

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Gold W. Van Derzee—By Respondents—Direct

ing the electric business and it has the same historical background that I have discussed in connection with the Milwaukee operations.

Q. The electric business of Wisconsin Michigan Power Company has already been described. Does this company engage in any other business? A. Wisconsin Michigan Power Company is engaged primarily in the generation, transmission, distribution and sale of electric energy and also furnishes gas service in the cities of Appleton, Neenah and Menasha.

4511

It also furnishes local bus service in the City of Appleton and inter-city bus service from Appleton to Neenah, Menasha and Kaukauna.

Q. Will you describe for us the gas operations of Wisconsin Michigan Power Company? A. These gas operations are confined to a relatively small portion of the territory that is served by the company. There are at present 9,223 customers, the majority of whom are also served with electricity.

4512

The company now operates approximately six miles of transmission mains and 121 miles of distribution mains. This utility also manufactures all of the gas it sells.

In the year 1939, it sold 207,828,500 cubic feet of gas,
—1,999—
the sale of which produced 8 per cent. of the company's total operating revenues.

The business is gradually diminishing as will be observed in the comparisons which I will give you shortly.

Q. Will you give us those figures for 1930 and 1939?
A. The electric operating revenues of the company in 1930

Gould W. Van Derzee—By Respondents—Direct

4513

were \$2,963,663.00, equal to 84.2 per cent. of total operating revenues.

In 1939, the electric revenues had increased to \$3,179,922 and the percentage had also increased to 88.6 per cent.

The gas revenues in 1930 were \$390,683.00, equal to 11.1 per cent. of total operating revenues, and in 1939 they had decreased to \$289,729.00 and the percentage increase had also decreased to 8.1 per cent.

Transportation revenues were \$164,067.00 in 1930 and equal to 4.7 per cent. of total operating revenues and these also had decreased in 1939 to only \$118,165.00 or 3.3 per cent. of total operating revenues.

4514

Q. Was there any historical connection between the gas and electric businesses of the company? A. The gas and electric systems of Wisconsin Michigan Power Company grew up together in serving the Appleton metropolitan area. The advantages of such joint operation are generally about the same as those that have been pointed out in the case of Wisconsin Gas & Electric Company, and they also will be

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4515

further elaborated upon.

Q. Will you describe for us the transportation activities of the company? A. The company operates local buses in the City of Appleton and renders inter-city bus service between Kaukauna, Appleton, Nennah and Menash. In the year 1939, it operated 637,133 bus miles and carried 1,322,495 revenue passengers. I have previously given you a statement concerning the small per cent. that these revenues are of total operating revenues of the company.

4516

Gould W. Van Derzee—By Respondents—Direct

Q. Was the business an outgrowth of a street railway business? A. Yes. The electric railway operations were very closely coordinated with the electric utility business. When rail service was discontinued several years ago, buses were substituted. We are not seeking to expand this business. It came with the company as an historical growth.

4517

Q. Are these transportation, gas and heating activities important to the communities served? That is, are they a public convenience? A. They are decidedly so and we find that the communities want transportation service. There is usually no one else to pick them up at the moment. When a street railway line is discontinued, communities usually want to know what kind of service is going to be given as a substitute.

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While they are incidental to the other operations, in the main they are businesses which are highly regarded as a necessity by the communities served.

Q. Is that also true of the same activities of Wisconsin Gas & Electric Company? A. It is.

4518

Q. Does Wisconsin Michigan Power Company own stock in Fox River Navigation Company? A. I have been away from the office for several days and I can only say at this time that it did own such stock the last time I was conversant with the operation.

I say that because I believe that an arrangement has been made which I understood had the approval of the S. E. C., under which the ownership of a small percentage of the stock of Fox River Navigation Company was to be divested and the stock reacquired by the Fox River Navigation Company under a certain agreement, which gave to the owner of the

Gould W. Van Derzee—By Respondents—Direct

4519

stock all the rights which would otherwise have accrued on liquidation and I can not say just what was done with that arrangement.

(Discussion off the record.)

By Mr. Browning:

Q. What is Milwaukee Light, Heat & Traction Company?

A. That Company is a wholly owned subsidiary of The North American Company. It had substantial electric and railway properties which were sold to The Milwaukee Electric Railway & Light Company in the year 1929.

4520

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Q. In the what? A. In the year, 1919. Generally the properties of that company operated outside of the Milwaukee metropolitan area at that time. Some of the non-operating property owned at that time was retained and the company now collects rents, pays taxes and maintains the property it owns.

It has no bonds outstanding and all of its capital stock is owned by The North American Company. It is really an inactive company with a small income from land and interest on notes of the Hevi Duty Electric Company.

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Q. Will you describe for us the Hevi Duty Electric Company? A. In addition to the real estate owned by the Milwaukee Light, Heat & Traction Company, it owns 74 per cent. of the capital stock of Hevi Duty Electric Company which is engaged in the design, manufacture and sale of electric furnaces and electric heat treating equipment.

Hevi Duty Electric Company designs and supervises the construction of furnaces and equipment it sells, but the

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Gould W. Van Derzee—By Respondents—Direct

actual manufacturing operations are done in the Cold Spring shops of The Milwaukee Electric Railway & Transport Company. There is a lot of history back of the incident that Milwaukee Heat & Traction Company owns 74 per cent. of the common stock of Hevi Duty Electric Company, and I want to take quite a little time to go through the reasons

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why there is such a relationship so that you will see, as I think the record will show, that the acquisition of that stock and the fostering of the cooperative activity of Hevi Duty Electric Company has been of very substantial value to the business of Wisconsin Electric Power Company and to any other electric utilities in the group of The North American Company and possibly outside.

We have been asked quite frequently why we have developed and fostered what is now the largest exclusively electric furnace manufacturing company in the United States and some background may properly be recorded.

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It is an outgrowth of early necessity, designed to overcome customer skepticism of electric heating and the then existing lack of an agency which was able and willing to underwrite results guaranteed to the customer.

That brief synopsis is somewhat ahead of the story but I wanted to put it in at that point.

This company, Wisconsin Electric Power Company and its predecessor, the Milwaukee Railway & Light Company, have been pioneers in a great many things, not entirely in the development of unique and effective means of producing power, operating street cars, and in other fields, but we have been pioneers in the development of a number of very basic sales opportunities.

We have to go back about twenty five years to review the
—2,004—

first one. I want to give that because it is something of this kind. We might, for example, have owned to advantage, the Pittsburgh Furnace Company which was instrumental in developing the electric steel melting business, but it wasn't necessary for us to go that far and I want to describe what we did do with respect to the early developments of electric steel melting in Milwaukee.

The Milwaukee territory, 25 years ago, was a metal trade manufacturing community, including many equipment factories, iron and steel fabricating plants, malleable and gray iron foundries, and twelve steel foundries.

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At that time, there was no really suitable electric arc furnace for steel melting. We experimented in a small way through one of our customers with one type that was reasonably satisfactory, but we had to go into considerable research and much further in order to finally develop a really satisfactory electric steel furnace and it was in 1916 that acquaintance was made with a gentleman by the name of W. E. Moore of the W. E. Moore & Company of Pittsburgh.

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Mr. Moore we knew, from reputation and some acquaintance, had engineering ability, ideas, and experience for producing what he thought would be a suitable three-phase electric melting furnace.

It is quite desirable to have three-phase melting furnaces so as to balance the load over the three phases of the dis-
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tribution system rather than to operate a single phase furnace which has undesirable unbalancing characteristics on the system.

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Gould W. Van Derzee—By Respondents—Direct

Arrangements were soon concluded with Mr. Moore for him to come to Milwaukee and establish the company then known as the Pittsburgh Furnace Company which would engage in the manufacture and sale of these three-phase electric arc furnaces and design in accordance with our mutual views on the subject.

Among the first furnaces built by the Pittsburgh Furnace Company were two large ten ton three-phase furnaces which were sold to the General Steel Company and placed in very
4529 satisfactory operation in Milwaukee.

All of the engineering and manufacturing facilities which were available as far as we were concerned, were placed at the disposal of the Pittsburgh Furnace Company and the General Steel Company furnaces demonstrated conclusively the effectiveness of the designs which had been incorporated in these initial furnaces.

We manufactured those furnaces for the Pittsburgh Furnace Company in the shops of The Milwaukee Electric Railway & Light Company. That is, the Pittsburgh Furnace Company was merely a selling device that utilized Mr.
4530 Moore's brains. He got the orders with our power salesmen from the customers and then The Milwaukee Electric Railway & Light Company built these furnaces because it had facilities which could be used for that purpose that were

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available in its shops and which were generally required in connection with the construction and operation of street cars and other large operations of the company.

Pittsburgh Furnaces, as they were called, subsequently became the principal steel melting furnaces used in the Milwaukee area and practically all of the electric steel foundries

adopted them in place of the earlier and less satisfactory single-phase furnaces.

Later, the manufacturing and promotional relations between The Milwaukee Electric Railway & Light Company and the Pittsburgh Furnace Company were discontinued and the Pittsburgh Furnace Company moved to Pittsburgh and later continued there.

At this point is the proper one to hark back to my statement that in the development of this very important basic sales operation, we might possibly have acquired, and to advantage, we might still have the Pittsburgh Furnace Company, but it so worked out that having utilized those facilities, Mr. Moore was able, because there was no large investment involved to take that furnace business and operate it satisfactorily for the benefit of the industry.

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If our company had been unwilling to finance the initial installation and take some measure of loss in case of failure, and had not offered inducements to an arc furnace manufacturer to move to Milwaukee, thousands of kilowatts of steel melting load would not be connected to the company's lines and millions of kilowatt hours of electric energy would have

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remained unsold.

With that background, we now go on to why we ultimately have an interest, through one of the subsidiaries, in the Hevi Duty Electric Company. We go to the subject of the resistance type electric furnace and the story of an electric furnace company being moved to Milwaukee to accomplish an important purpose.

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Gould W. Van Derzee—By Respondents—Direct

Developments in the production and use of machinery, automobiles, farm equipment, trucks, and so forth, during the latter days of the World War, and during the decade which followed, called for specific qualities of iron and steel.

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The foundation for these qualities could be established in compounding the metal in the electric furnace, but metallurgists soon discovered that vastly improved results could be achieved by the heat-treating of metals in various stages in preparing them for their final use in the equipment for which they were manufactured.

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This led to research in the field of heat-treating, annealing, carburizing, nitriding and similar technical operations. Developments in electric furnaces were started by various manufacturers and it was found that electric furnaces offered greater refinement in control of processes than any other method and could produce a more definitely predetermined quality of steel. It was impossible at that time to speculate with any high degree of accuracy on the amount of elec-

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tricity that could be utilized for heat-treating in the metal trades, but it was obvious that with the proper development in equipment and processes, this field had tremendous possibilities, the views of the field indicating the possible use of heat-treating furnaces, varying in electrical capacity from 100 kilowatts to 1,000 kilowatts in size.

Further developments led to opportunities for furnace capacities of several thousand kilowatts and I think I mentioned to you a tremendous one, the largest in the country that Hevi Duty Electric Company built for the A. O. Smith Company.

Gould W. Van Derzee—By Respondents—Direct

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Altogether, it was evident that there was in any industrial center a huge potential market for kilowatt hours in the electric heat-treating field. Developments at first were slow. A number of manufacturers were designing equipment and operating electric furnaces, but it was impossible at that time to get local industries in our territory to make the relatively heavy investment necessary to obtain the equipment without some very definite participation and responsibility on the par of the local utility.

In the Milwaukee district, we tried to analyze the possibilities in this field and the work of various manufacturers of furnace equipment in introducing electric heat-treating processes.

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We achieved some degree of satisfaction in this field, in 1921, 1922 and 1923, but some very important opportunities were lost because—now, I want to emphasize this—no manufacturer of our acquaintance existed who both could and would take a local industrial problem, prescribe the heat-treating processes, specify the equipment, and furnish, install and place in operation at a predetermined price and with guaranteed agreed upon results in the finished product.

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He would not take those responsibilities for an electric furnace. It was obvious in our territory that, unless our company could become the over-all underwriter in the foregoing picture in the adoption of electric heating and the installation of electric heat-treating equipment it would be seriously retarded.

It was found impractical to assume such underwriting where a number of manufacturers and contractors were involved in a given installation, one furnishing plans and specifications, another bricks and mortar and so on.

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Gould W. Van Derzee—By Respondents—Direct

We therefore began to look about for a source of equipment and adequate facilities for engineering and manufacturing these furnaces.

I had a personal experience in that connection that I remember. It was the case of trying to sell an electric furnace to the Rundle Manufacturing Company back in this period. One company had resistance elements for sale, another offered to put up the steel structure of the furnace and

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supply the brick work. Still another had a type of transformer that would operate with the particular connection of windings in this furnace, and there were others involved.

The fact was that when we got all through, that customer turned down electric heat-treating operations that we should have had on the system because there was no one outfit that would guarantee the over-all performance of this collection of component parts provided by several different manufacturers. The utility obviously was not in a position to guarantee those results because it had nothing to do with the design of the furnace nor the furnishing of any part, so there we were helpless to develop as rapidly as we wanted this extremely important market for electric heating, just because of the absence of a company which would sell a complete electric furnace just as you now sell an automobile.

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It was just as if we went to a prospective customer to sell him an automobile and you had only the wheels and someone else had the engine and still somebody else the seat covers. No customer wants to buy equipment on that basis. At that time we had some acquaintance and satisfactory experience with a manufacturer called the Electric Heating Apparatus Company of Newark, New Jersey.

We found that that company had achieved success in manufacturing of small laboratory furnaces and had certain valuable patents and engineering talent for developing even
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larger furnaces. They had made a few experimental larger furnaces of the type that I was just talking about which had stood up fairly well.

After some negotiations with that company, arrangements were made for it to move its factory and facilities to Milwaukee. An agreement was executed in October, 1924, and the organization, together with its facilities, was located by the end of that year in premises leased from our company. 4544

An agreement with this manufacturer gave Milwaukee customers an option on 75 per cent. of the output of electric furnaces. The manufacturer was to furnish and install complete apparatus for the customers and in addition test and demonstrate the performance of equipment and stand back of such guarantees as would be mutually agreed upon.

The manufacturer's sales representatives were to help analyze the requirements of our operating territory and to cooperate with our own commercial engineering forces in developing this important business. 4545

The agreement initially made was to have the facilities of this furnace company also available to a certain extent to the other subsidiaries of The North American Company and The North American Company actually signed the initial agreement with respect to this development.

The arrangement enabled us to carry out the procedure
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which I have just indicated, namely, that we could determine

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Gould W. Van Derzee—By Respondents—Direct

the requirements of a customer like the Rundle Manufacturing Company that I mentioned, specify the type of furnace that was needed and actually go to town with a development that would produce sales of electrical energy in large quantity by our company.

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Shortly after this company moved to Milwaukee, the name was changed from the Electric Heating Apparatus Company to its present name—the Hevi Duty Electric Company. That is the company that I am describing which is a subsidiary of Milwaukee Light, Heat & Traction Company.

In November, 1925, the factory and offices were moved to a site adjacent to the Cold Spring shops of the company.

Q. Of what company? A. The Milwaukee Railway & Light Company is referred to. And contractual arrangements were made so that the extensive shop facilities at Cold Spring shops could be used in the manufacture of the furnaces.

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That arrangement still continues. Facilities of the Cold Spring shops are quite varied and in view of the gradual diminution of the street car business, there is space available for the manufacture of electric furnaces.

In fact, it seems that that business is gradually getting larger as the street car business is gradually getting smaller. It is at the moment a sort of natural complement to the street railway shop operations; makes use of joint facilities.

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The company pays rent for the office space which it uses in a part of the adjacent shop buildings which it might be difficult otherwise to rent.

Gould W. Van Derzee—By Respondents—Direct

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In the course of time, the control of Hevi Duty Electric Company gradually passed to Milwaukee Light, Heat & Traction Company and that was because this particular type of business, so diversified as to use, requires a great many different kinds of furnaces, and there are continually popping up interesting and profitable fields in which these new furnaces can be developed.

Anyone who has been connected with the manufacturing business, knows very well that developments sometimes take a great deal of money before the apparatus is perfected. Insofar as we influenced the operations of Hevi Duty Electric Company—and I happen to be an officer of it, so that I can correlate the sales activities of Wisconsin Electric Power Company with that of a manufacturer that will produce efficiently what we want, we arrange such correlation and I think to the benefit of the industry.

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We think that the program has worked out with considerable satisfaction. Hevi Duty Electric Company has achieved outstanding results in the production of high-class electric heating equipment for widely varying requirements.

Our troubles with special installations such as we had with the Rundle Manufacturing Company have practically

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disappeared. The engineers and salesmen of Hevi Duty Electric Company which, of course, are on their payroll and entirely paid by them, are a very valuable adjunct to the sales forces of Wisconsin Electric Power Company.

No salesman in our sales department unless he was wholly detached for that purpose, could afford to spend the time required in the education necessary to know all about electric furnaces.

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Gould W. Van Derzee—By Respondents—Direct

These furnace men have an intimate family relationship with us and we can find out their secrets in advance, whereas the average manufacturer of electric furnaces tells you something when the product is about to come on the market, you have no time to prepare for it, and generally the outside manufacturing company heads don't give out such information.

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We are right there at the inception of the ideas. We frequently tell the Hevi Duty Electric Company that we ought to have a furnace to do a certain thing.

Not long ago I said to Ed Smalley, president of the company, "Why don't you develop an electric garbage burner; such a device might have considerable sale." Well, it turned out that it would be rather easy to develop an electric garbage burner but at the present time it is not a very effective load for the system, but that probably is being worked on and I doubt if any other electrical manufacturer in the country has even thought of it.

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You have the types of garbage burners which operate with a little draft and a match providing you don't have too many watermelon rinds. You have the gas operating garbage burner and oil operating garbage burners, but think how nice and clean an electric garbage burner would be if you just turned a switch.

I recollect also going to Ed Smalley many years ago and saying we ought to develop the electric water heating business. "We will make the rates if you will make the furnace." That resulted in a long chain of study as to the most effective means of developing an electric water heater.

Gould W. Van Derzee—By Respondents—Direct

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It was considerably ahead of the time that you could go out and buy an electric water heater in almost any up-to-date shop.

You didn't even get guarantees from a manufacturer where you gave him the specifications and told him to go ahead and build one, with perhaps one exception. We found out all we could learn from that one exception and then went ahead on our own hook with Hevi Duty engineers by our side and we lost no motion in working out the problem.

Finally, there was developed a series of electric water heaters in fifty, eighty and a hundred and twenty gallon sizes and the company took the first hundred off the hands of Hevi Duty Electric Company, which was given an order to manufacture such water heaters and put them out on trial with various customers of the company, and carefully

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watched the operations for many months.

It was, of course, necessary to get the cooperation of the Public Service Commission and establish a rate which could be charged for this experimental operation, but evidently we hit on approximately the right idea and the right rate and following our determination that these electric water heaters were operating satisfactorily, that it was a needed service in any community, we gave the company larger orders and expanded the number of water heating customers very materially.

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I will jump from that early example of cooperation on an undeveloped device for improving the sales of electric service to the statement that within the last year I, as an officer of Hevi Duty Electric Company and also as an officer of Wisconsin Electric Power Company, said to Ed

455^c*Gould W. Van Derzee—By Respondents—Direct*

Smalley, the president, "We should arrange to go out of the manufacture of electric water heaters because they are being generally manufactured and you can buy them in satisfactory form at satisfactory prices."

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Hevi-Duty Company discontinued promptly the manufacture of electric water heaters, sold its rights to manufacture the particular type to the Strauss Electric Company and has completely gone out of that particular business. It is now devoting energies that it has used in that field to other fields that are undeveloped which we can promote.

Each heating problem is definitely engineered. The industrial operator is given definite assurance as to what he can do with an electric furnace of a definite type and design, but I want to bring out this point that he does not have to buy a Hevi-Duty electric furnace. Experience shows that about 60 per cent. of the furnaces connected to our lines are of a make of the Hevi-Duty Electric Company. There are other competing makes in many fields, although the company has fundamental patents on a number of original designs.

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We talk about the steel melting load and the tremendous development of kilowatt hours through that outlet. We have been talking for the last few minutes about the resistance type electric furnace which is a different type from the arc type electric furnace. These resistance type furnaces have coils in them that may look quite like the coils in an electric range. They turn the current on and they glow. The temperature can be raised to any predetermined figure. Generally the same kind of material is used as is used in the element of an electric range. It is nichrome wire, having a

high resistance and capable of attaining a temperature of
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approximately 1,900 degrees maximum with safety.

Because of the nature of the resistance elements in the electric furnace they have what is called a high power factor. That is a very difficult term to describe and I shall not attempt it, except to say that if you take this same wire which you have in the furnace, which has very desirable operating characteristics, and if you were to roll it into a coil it would have less desirable characteristics because of so-called inductance losses.

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The addition of some 65,000 kilowatts of resistance type furnaces in our operating territory has provided us with a wonderful base furnace load of very desirable operating characteristics through which millions of kilowatt hours are sold annually and we attribute our development in this type of load and in certain other loads to the facilities which Hevi-Duty Electric Company has afforded us.

In other words, we got the jump on industry and this type of development by analyzing the needs of customers and by going out and actually developing in the first instance suitable arc type furnaces with the Pittsburg Furnace Company, and then suitable type resistance furnaces with Hevi-Duty Electric Company. The era of research and development in that field is not over; probably it is just beginning. It is of such a varied nature, this future field for outlets of electric service in industry, that in the interest of our own company we ought not to really part with such a valuable

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adjunct to the sales forces as the adjacency of this furnace company and the ownership thereof if it is possible.

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Gould W. Van Derzee—By Respondents—Direct

Just as an interesting sidelight, the Hevi-Duty Electric Company has a large sale of small laboratory furnaces and small furnaces, say, from 250 watts capacity to 18 kilowatts of capacity. In all, approximately 50,000 of such furnaces have been manufactured by Hevi-Duty Electric Company. Some of their special furnaces can be found in substantial numbers in the Cleveland territory where considerable heat treating is done and the operations have been very beneficial to the other subsidiaries.

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Q. The other subsidiaries of what? A. Of the North American Company.

From a tiny furnace designed to heat treat a false tooth, to the largest electric furnace of 12,000 kilowatts capacity we have in between all sizes and shapes of furnaces and ranges of purposes. The large furnace that I mentioned that was built for the A. O. Smith Corporation about the year 1930 was designed and constructed completely by Hevi-Duty Electric Company and its over-all dimensions may be of interest to you to indicate the size of the facilities that have to be built for some of these operations.

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The over-all outside dimensions of that furnace of 12,000 kilowatts are 83 feet long, 42 feet high, and 42 feet wide. That furnace is capable of heating 90,000 pounds of steel an
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hour to a temperature of 1,750 degrees F.

If that furnace were to be operated continuously—I repeat a statement that I made a few days ago—it would utilize as many kilowatt hours as all the residence customers put together in the city of Milwaukee. So we are playing with big stakes and big possibilities in this furnace business, not with big profits to furnace companies but big profits to the

electric utility that has control of it and directs its destinies along the lines that it should go.

One of the most interesting and perhaps the most recent developments that have been carried on by Hevi-Duty Electric Company is in connection with Alloy 10. That is the name of the alloy. Alloy 10 is a patented mixture of iron, chromium and aluminum, which patents Hevi-Duty Electric Company were instrumental in developing to the point of issuance. While the exact metallurgical work was not done by that company, the idea of the necessity for a resistance wire which could be heated to higher than 1,900 degrees originated with our interests. This wire has been developed at substantial expense. It is now being used in medium sized electric furnaces and it will ultimately open up a tremendous field for the use of electric service in ceramics and other operations where temperatures from an electric furnace up to 2,400 degrees must be obtained.

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It is really a marvelous development that has not been fully recognized as yet by the industry, but I predict that

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over a period of years that single development fostered by our sales department and the Hevi-Duty Electric Company will add many more millions of kilowatt hours to the lines of the company and to other companies, perhaps, and will take its place along with the long line of original developments which started with the electric arc furnace, followed by the resistance furnace for low temperatures, and as I say now we are going into the field of resistance type furnaces for high temperatures.

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We know that the joint promotional and research work undertaken by The Milwaukee Electric Railway and Light

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Gould W. Van Derzee—By Respondents—Direct

Company and continued now by Wisconsin Electric Power Company and the Hevi-Duty Electric Company, during the past 12 years at considerable expenditure of time and money, has been justified many times through the addition of revenue-producing furnace loads of desirable characteristics.

Q. You have described the activities of all of the companies in the Wisconsin Michigan group of subsidiaries of the North American Company, in addition to the electric business, is that correct? A. I have.

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Q. Do any of these other activities have any detrimental effect on the rates for service of the electric businesses? A. I can state most definitely that they do not have any detrimental effect on the electric service business of the com-

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pany. On the contrary, I think that I have given plenty of examples to indicate that collectively they are of great advantage, and that there is no one single one in the group that is detrimental.

The Trial Examiner: Let's have a recess.

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(Whereupon, after a brief recess the hearing resumed.)

By Mr. Browning:

Q. You testified that Wisconsin Michigan Power Company owns approximately 27 per cent. of the voting stock of Fox River Navigation Company? A. Yes.

Q. What is Fox River Navigation Company? A. Fox River Navigation Company is a company which owns a couple of tugs and seven barges. It hauls coal from Green

Gould W. Van Derzee—By Respondents—Direct

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Bay to the company's plant and to the plant of a few other stockholders. It practically furnishes such services at cost.

I have previously testified that we expect to have an arrangement completed whereunder the stock of approximately 27 per cent. of the total owned by Wisconsin Michigan Power Company will be reacquired by Fox River Navigation Company, reserving under suitable agreement liquidating rights, and also providing that the present director, Mr. Schubert, will resign from the board.

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Q. Does the investment which Wisconsin Michigan Power Company has in this company approximate the proportion of the volume of freight which the navigation company handles for Wisconsin Michigan in relation to the total

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volume handled? A. Yes.

Q. Does the Navigation Company handle freight for anyone other than its stockholders? A. I believe not.

Fox River Navigation Company has an application pending for exemption and the Securities and Exchange Commission has been advised of the arrangement proposed between Wisconsin Michigan Power Company and the Fox River Navigation Company for disposal of its stock and directorship.

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Q. Does Wisconsin Electric Power Company perform any accounting services for its own steam business and for the Transport Company in addition to services for its electric business? A. Yes, the accounting department of Wisconsin Electric Power Company does perform accounting services for the Transport Company and the heating utility in its own business and I will describe the nature of these

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Gould W. Van Derzee—By Respondents—Direct

several joint services that are so performed by each important division of the accounting department of Wisconsin Electric Power Company.

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First, we will take the general accounting division. This division maintains the general accounting records for both the Transport Company and the heating utility of the company. All accounting operations necessary to keep the accounts of the Transport Company and the heating utility in accordance with the uniform Classification of Accounts are performed by this division. That is in addition to the

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maintenance of the accounting records, regular and special reports are prepared from time to time, also special analyses are made and data accumulated.

The record maintained for the Transport Company are entirely separate from the records of Wisconsin Electric Power Company. The records for the heating utility, while complete in themselves, are a subdivision of the records of the electric company.

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The second subdivision of the accounting department which performs joint accounting services is the accounts payable division. Invoices for equipment, material, services, etc., covering the operation of both the Transport Company and the heating utility are directed to this division for payment. The essential functions performed by this division are to audit these accounts and be sure that payment to be made is proper, prepare checks for payment, maintain necessary records and files and carefully watch the discount dates in making these payments.

Invoices covering the payment of purchases for the heating utility are made on Wisconsin Electric Power Company

Gould W. Van Derzee—By Respondents—Direct

4579

checks and payment for the Transport Company purchases are made on checks of the Transport Company.

When I use the term "Transport Company" I mean The Milwaukee Electric Railway and Transport Company, and it has no reference to the Motor Transport Company.

Miss Calkins: When you are speaking of the heating utility company you are referring merely to a division of Wisconsin Electric Power Company and

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not a separate corporate entity?

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The Witness: Yes, I have not intended to refer to it as a heating company but as a heating utility which is a subdivision of the company's activities.

Miss Calkins: I don't mean to get off the line here and cross-examine but I just want to get your testimony clear. This accounting department then is rendering services only for one other company.

The Witness: That is correct.

Miss Calkins: That is what I wanted to know.

The Witness: It is rendering services for one other company and for the incidental service of heating.

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The third division of the accounting department to be discussed is the property and plant accounting division. Property and plant accounting records for both the Transport Company and the heating utility are maintained by this division. I described some of the activities of this division in previous testimony but generally the purpose of these records is to establish and maintain a complete and accurate record of all items of property and embrace such informa-

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Colloquy

tion as description of property, date acquired, cost or amount, date and amount of property additions, and data relative to the retirement of all property from the company's service.

Records maintained for the Transport Company are separate from those of the Electric Company.

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The fourth division of the accounting department which performs a usual joint service is known as the mechanical accounting division. This division performs services for both the Transport Company and the heating utility, in addition, of course, to the electric utility operations of the company.

The punching of cards and preparation of reports covering accidents, receipts and disbursements of materials and supplies, inventory of stock material, property records, and apportionment and clearing of accounts is done by that division.

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Services relative to the preparation of rolling stock in the department and transportation department pay rolls are performed for the Transport Company. Performance of work for the Transport Company and heating utility increases the volume of available work and permits a schedule of work in such a manner as to maintain a high machine load factor, in fact a higher one than would be possible if each performed its own work separately. The higher the machine load factor the lower the machine rental cost per unit of output. We have to rent these machines. They are not owned. It is like the shoe machine

manufacturing business which rents many of the machines used.

The higher volume of work also reduces unit labor costs and one person can operate a number of sorting and tabulating machines at one time. Full-time attendance would be required even though there were fewer machines to operate.

The fifth division of the accounting department which performs joint accounting services is known as

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the centralized pay roll division. The centralized pay roll division performs the following services for both the Transport Company and the heating utility. It maintains social security records and prepares the necessary reports therefor. It maintains state and federal unemployment compensation records and prepares reports and data as required. It maintains a complete file of master employee record cards and performs other pay roll services such as recording data relative to employees entering and leaving the service, changes in amount of wages, date thereof, etc.

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This division also performs timekeeping and pay roll work for the Transport Company. It is expected that these services will also be performed for the heating utility starting October 1 of this year.

In other words, we have not perfected the centralized pay roll work to the extent that it now covers all of the departments but we experimented several years ago with two or three divisions and we are gradually taking over all the pay roll work from

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Colloquy

different departments so that they have no pay roll clerks preparing the final pay roll. It is being done in a centralized pay roll department.

A sixth customers' accounting division performs work for the heating utility consisting of the preparation of steam service bills and work related to the billing operations, delivering bills to customers, performing credit and collection functions relative to

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the handling of steam service accounts, addressographing pay roll checks and similar operations.

Services performed for the Transport Company embrace such items as these, addressographing transportation time cards and pay roll checks, billing of inter-company and associated company accounts, rental for properties owned by the Transport Company and rented to others, collection of rent and maintenance of records and reports covering rented properties, billing tenants of the Transport Company for use of electric service, accrued credits to be charged such as for charter service, and the accumulation of data and preparation of invoices relative to services performed for outside customers.

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A seventh division of the accounting department which performs work jointly for the operation of the heating division of the Transport Company is called the report and development division. In view of the fact that this division makes studies and prepares reports and performs development work for all accounting department operations, the work is performed for the Transport Company and the heating utility.

Colloquy

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Recently considerable work has been performed for the heating utility in connection with the proposed transfer of the power plant department pay roll work to the centralized pay roll division. I mentioned that other divisions will shortly take up that work and this report and development division is a little division within the accounting department which needs to be

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very close to the operations and is sort of a miniature research bureau, working on problems entirely within the accounting department.

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A large amount of work has been performed for the Transport Company in the development and improvement of pay roll and time-keeping work performed by the pay roll division. Work performed for the mechanical accounting division covers both the heating utility and the Transport Company.

Last, we have an eighth division of the accounting department which performs these joint services called the cashier's division. Relative to the work performed for the heating utility this division receives payment for steam service and deposits the money collected. Work performed for the Transport Company includes separation of tickets and cash, that is the contents of the fare boxes, counting of the cash taken from fare boxes, and sale of tickets and passes, counting of redeemed tickets and transfers, supplying stations with tickets and passes, depositing cash receipts, and auditing cash, ticket and pass balances of each station once a month.

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Gould W. Van Derzee—By Respondents—Direct

In my opinion, the result of all this centralized accounting is a very substantial economy.

Q. Does the operating research bureau perform any functions for other companies? A. It does.

Q. Will you describe those? A. I think it is advisable

—2,030—

4595 that I describe this organization. This organization known as the research bureau is made up to a great extent by trained engineers and accountants, and functions as a joint facility available for special studies and investigations to the Transport Company, the heating utility and other associated and affiliated companies.

Q. Those include Wisconsin Gas and Electric Company and Wisconsin Michigan Power Company? A. They do. When so employed, the services of the research bureau are charged against other organizations and I refer you to Mr. Schmidtman's testimony yesterday as to the basis of such charges.

4596 Such arrangement insures competent unbiased services for the user and saves that organization from maintaining such trained man power on its own pay roll. This plan also makes it possible to maintain a highly trained specialized group of analysts with an efficient load factor for its man power, whereas if each maintained its own special investigators such would not be the case and the result would be inferior work of higher cost.

The following instances which I will give are where the operating research bureau has been of service to the Transport Company and to the heating utility particularly, and also to associated companies:

Gould W. Van Derzee—By Respondents—Direct

4597

First, internal audits are made for the Transport Company and for heating utility as well as for other affiliates

—2,031—

and covers such items as cash audits, voucher audits, pay roll audits, and stock auditing, general supervision of accounting functions, particularly with respect to interpretation of accounts and methods, is furnished by the bureau.

Second, the bureau furnishes a considerable amount of services in connection with income tax studies and reviews the returns of the associated companies for both state and federal governments. In fact, very definite instructions are followed with respect to the functions of this one group that they shall review the income tax returns and give to each company the benefit of their long experience and knowledge.

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All tax audits made by the state or federal tax department, as previously stated, are checked and negotiated, and tax litigation is followed. I remember that our tax experts in the research bureau a year or two ago, when we were endeavoring to clean up all of the unsettled tax cases with the state, did a very substantial amount of work for Wisconsin Gas and Electric Company and Wisconsin Michigan Power Company; and for what was the old Milwaukee Electric Railroad and Light Company before the separation.

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The work of following property tax assessments falls to the bureau. Capital stock tax returns are examined and details of filing are followed.

Third, special depreciation studies and analyses for affili-

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ated companies and for the heating utility are carried on by the bureau. I have personally been rather close to the sub-

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Gould W. Van Derzee—By Respondents—Direct

ject of depreciation and particularly since the Uniform Classification of Accounts was issued by the Public Service Commission effective January 1, 1938. That provided that within a year each company should make a detailed study of depreciation, of depreciable property, by classes of service and present it to the Commission.

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The operating research bureau was charged with the job of making the reports on depreciation of that character for all of the companies and it was a stupendous piece of work. No man or group of men not thoroughly familiar with the property in the field and records of the use of property could possibly have prepared it.

That same Classification of Accounts required that within thirty days each company should state what objections it had, if any, to straight line depreciation, and if it had any objections it should state the method of depreciation accounting that it thought should be employed for the respective company and why.

4602

Our companies had not operated on the straight line basis of setting up depreciation. Historically, they had generally been on a sinking fund basis and that was particularly true of The Milwaukee Electric, Railway and Light Company. Later, Wisconsin Gas and Electric Company and Wisconsin Michigan Power Company adopted sinking fund depreciation with $3\frac{1}{2}$ per cent. interest on reserve balances cred-

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ited to the depreciation reserve annually.

It was up to the research bureau engineers to sit in at hearings before the Public Service Commission on this extremely important subject and to follow it through to a conclusion for the several companies.

Gould W. Van Derzee—By Respondents—Direct

4603

The first result of that work by the research bureau has been the recent order that I mentioned, that the executive committee of the Wisconsin Electric Power Company reviewed relating to depreciation on the sinking fund basis for Wisconsin Electric Power, and similar orders are expected for the other properties.

That is one of the very highly specialized services that this group of men give to the properties as a whole and we believe that in the first place it would be very difficult to find men who, by long training and experience, would be able to perform such work if each company had to have a special group of that kind, and it seems obvious that one group can perform more work for the several companies cheaper and better in this instance than if each company were to try to set up its own group of tax experts and workers on depreciation.

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Fourth, in the past considerable assistance has been furnished to the associated companies in connection with the preparation of reports and schedules necessary for the re-financing plans. There is a lot of ground work that has to be done locally and the boys in the research department are

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the ones that have done that for the several companies.

Fifth, particularly for the Transport Company the bureau prepares exhibits and presents testimony for service extension hearings and fare cases before regulatory bodies. We have one man in the bureau who supervises that type of work and, of course, does other work, too, when there aren't any fare cases, who has become an expert over the years in putting in a type of testimony that is required in the many ap-

4606

Gould W. Van Derzee—By Respondents—Direct

plications of citizens for extension of bus services and changes in transportation facilities.

There is great advantage in having such an individual in the bureau and he can work on other things when there are no transportation cases.

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Sixth, special studies bearing on the economics of modernization of facilities are prepared for the Transport Company. That is the type of problem that arises when a Mayor or an Alderman in some district goes to the newspapers and says, "I think we should have trackless trolleys on Center Street, instead of the existing street cars."

The bureau, in connection with a problem of that kind which ultimately comes before the council and for which the company has to put in an appearance and report, makes a very extended study of the economics of the situation. They find out from the property and plant record division, which is just 100 feet down the hall from the office of the operating

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research bureau, what that piece of track cost. They go back to the original work orders and from our property record that is reasonably easy to do. Then from their knowledge of depreciation they figure out what the unamortized investment is, how much of the property investment has not been offset by depreciation in the reserve of the Transport Company.

We need to know that because we want to know what useful life is left and from an accounting standpoint what we are going to do with it when we find out what it is.

Then they make an estimate of the cost of new facilities that will be required to substitute trolley buses for the street cars. From long experience their knowledge of trainmen's

Gould W. Van Derzee—By Respondents—Direct

4609

wages and schedules enables them to estimate the expenses of the bus operations and their maintenance. Finally they produce a report which is the basis for the Transport Company president to determine whether or not the company should, for economic or other reasons, oppose the change of the rail service to trolley bus service on said Center Street.

The preparation of reports of that kind means a very long intimate experience with the properties is necessary. These men who work on that subject have that experience and it would be an uneconomical thing to push them over on the Transport Company payroll just because they have it and make them work continuously with that company because they are also trained in other things, to supply the

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—2,036—
needs and services of other companies and effectively fill in the balance of their time on those things which they would have no means or authority to do if they were placed on the payroll of the Transport Company. It has no operating research bureau and performs no such functions for other companies.

Mr. Browning: Mr. Examiner, I think we might suspend at this time.

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The Examiner: All right. We will recess the hearing until two o'clock this afternoon.

(Whereupon, at 12:30 o'clock the hearing was recessed, to reconvene at 2:00 o'clock p. m.)

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Gould W. Van Derzee—By Respondents—Direct

AFTERNOON SESSION

(Whereupon, at 2:00 o'clock p. m., the hearing reconvened.)

Whereupon, GOULD W. VAN DERZEE the witness on the stand at the time of recess, resumed the stand and testified further as follows:

Direct Examination by Mr. Browning (Continued):

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Q. You were describing certain instances in which the operating research bureau has been of service to various associated companies and have given six such illustrations. Will you give other illustrations? A. Seventh, the bureau prepares reports for the use of directors of the company and it also prepares the fundamental information that is presented to the president with respect to each company for a letter which he writes to the Board of Directors which is delivered to each member by the 15th of the month.

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There is really quite a lot of fire department research necessary in such a proceeding. For example, our preliminary statement is done in condensed form about the 10th of the month covering the operations, showing the revenues by important groups and the expenses by important groups, but not in the detail that is in the more detailed report which comes out about the 15th to the 20th, and it is necessary to get from the books the reasons for principal departures

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of revenue and expenses from the corresponding month of last year and also from the budget, and to write statements with respect to those departures so that the president can

Gould W. Van Derzee—By Respondents—Direct

4615

incorporate them, after he has studied them, into this letter to directors.

The research bureau does the ground work on that for all of the companies. Where it hasn't right at hand reasons for things, it gets in touch with the treasurers, secretaries, or operating officials at the companies in Appleton and in Racine.

Eighth; land and property appraisals. Establishment of rentals for leased property and power rate studies are made for The Transport Company by the Bureau. There was a very detailed study requiring many appearances before the Commission on the question of what is the proper rate for the electric company to charge The Transport Company for power service. The power service is 600-volt direct current.

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The facilities to produce that 600-volt direct current are all owned by the electric company so it was necessary to make a detailed study of the character of the railway load and to determine the various elements of cost all the way down from the generator to the rotary converter that changes alternating current at the sub-station to the 600-volt service required at the trolley.

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Mr. Schmidtman did a great deal of work on that particular subject. It is typical of one of the largest problems that is done for The Transport Company by the research

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bureau.

Ninth; exhibits used for cases before regulatory bodies are prepared. One of the examples of these cases is information necessary in the application to erect the East Wells Street and the Commerce Street stations.

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Gould W. Van Derzee—By Respondents—Direct

While those stations are owned by the electric company, they do have an important function in providing heating service, which is one of the incidental businesses we have been discussing.

Also the research bureau has prepared many statistics and data necessary in the application of Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company.

4619 Tenth; construction, retirement and operating budgets for the heating utility and The Transport Company are prepared in the bureau.

Mr. John Dockendorf, whom I have described as a member of the research bureau; in fact, assistant research engineer, was appointed as head of the budget division of the inter-company accounting committee, made up of members of the subsidiaries of North American Company.

Mr. Dockendorf was chosen because of his rather extended knowledge of the preparation of budgets.

4620 The preparation of agreements and contracts for filing with regulatory bodies fall with the bureau and involves The Transport Company as well as other facilities. There is a so-

—2,040—

called affiliate statute in Wisconsin which requires the filing of an approval of arrangements made between affiliates. The Bureau prepares those for all the companies in our group in a uniform manner after consulting with the various departments as to detailed information necessitating these agreements and it undertakes to answer the Commission's inquiries about them.

Twelve; monthly reports of a financial and statistical nature for the American Transit Association and other ques-

tionnaires and annual statements for directories are prepared by The Transport Company for the bureau.

Thirteenth; reports to the Federal Power Commission and to other Federal agencies are regularly prepared in the bureau and cover operations of other affiliated companies.

Most questionnaires, except those involving scientific information about power plants and the like, go to the research bureau from the different companies so as to have a uniform method of preparation and answer.

They know what the companies desire to do and usually when one of the companies gets one of that kind, he merely sends it to the research bureau and if there are any questions, they are answered and it is determined whether the answer is to be sent out or the questionnaire put in the ice box.

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We virtually have to have a questionnaire department and it is concentrated in the bureau.

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Fourteenth; gain-sharing plans, more commonly known as bonus plans, are prepared and maintained by the bureau for The Transport Company, heating utility and Wisconsin Gas & Electric Company.

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Certain bonus records are maintained for employees of the heating utility and The Transport Company by the operating research bureau.

Fifteenth; the bureau offers statistical and other experience to The Transport Company and to the heating utility in connection with labor and wage negotiations.

We have one man in the bureau, Mr. Larkin, who is quite an expert on matters of that kind and he renders consider-

4624

Gould W. Van Derzee—By Respondents—Direct

able service to The Transport Company and also to Wisconsin Gas & Electric Company and Wisconsin Michigan Power.

Just recently there was an arbitration over some matter in Wisconsin Gas & Electric Company at Racine and Mr. Larkin was selected by Wisconsin Gas & Electric Company because of his intimate knowledge as to the company's arbitrator.

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Sixteenth; the development and establishment of continuous property records, inventory of physical property, reclassification of accounts and special property map records as well as development work on acquisitions of property, have been prepared for Wisconsin Gas & Electric Company and for Wisconsin Michigan Power Company by the bureau.

The last item, development work on acquisitions of property is one that makes a rather big file in the research

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bureau. One of the men you have met—Mr. Schmidtman—has done a very extensive amount of work on that. I think his latest piece of work was in connection with the acquisition of the Narrows Dam property.

He made an extended study in the field. Some fifteen years ago—or, perhaps, I should say between ten and fifteen years ago—Mr. Schmidtman made a study of a large hydro-electric development in upper Michigan, called Sturgeon River Development.

Q. For Wisconsin Michigan Power Company? A. For Wisconsin Michigan Power Company or its predecessors.

We were thinking at that time that it would be an important acquisition, to acquire this most northerly water

power site, nearly up to the northern boundaries of upper Michigan at Lake Superior, so Mr. Schmidtman spent many weeks there. That was one of the properties that I later came to The North American office on, with respect to the final acquisition, and Mr. Browning happens to be the man that wrote up the contract for me—the contract between the owners of the property and our interests.

There are undoubtedly many minor operations that the research bureau performs, that don't come readily to my mind. They cover all phases of operation.

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The operating research bureau is really an arm of the management of the several companies. Instead of having assistants attached to each office of an officer within any one company, these men are all in one place, and their service does not only apply to all the officers of the Wisconsin Electric Power Company, but to the other companies as well, as I have described in many instances.

I have been with the Company so long that I can remember just how the operating research bureau started. It just started out of necessity of having detailed information worked up and kept and at the fingers' ends of experts. One of our present vice presidents—Mr. Seybold—started in the research bureau as far back as 1919.

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It was formulated shortly before that time and has been expanding in size and usefulness, and economical operation for the several companies, ever since.

Except for Wisconsin Electric Power Company, I doubt if any—and I am certain that no other company could afford to have that group of trained experts, and by "other com-

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Gould W. Van Derzee—By Respondents—Direct

pany" I mean other company in our group of four major companies in the Wisconsin Michigan group of properties, namely Wisconsin Electric Power Company, Wisconsin Gas & Electric Company, Wisconsin Michigan Power Company, and The Milwaukee Electric Railway & Transport Company.

For Wisconsin Electric Power Company it has been a great advantage to have this diversity of use, and similarly

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for the other companies, it has been a great saving to, in effect, be able to buy the character of service that the bureau gives, for the reasonable price at which it is furnished.

You have to compare it with what these other companies would be up against. They would either have to have their own facilities or they would have to buy it from some engineering concern on a per diem basis, when they needed it, and that is an expensive type of information, and you really can't get it from outsiders.

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Another reason why it would be practically impossible to consider setting up a group that functions like the operating research bureau does is that the men who make up the operating research bureau can't be duplicated overnight.

They can't be duplicated in a year, and some of them in a decade. It takes long, intimate experience with the property to grow men like those we have in the bureau, of which Mr. Schmidtman is an example.

Q. Does The Transport Companies' rolling stock department render any services to Wisconsin Electric Power Company? A. It does.

This is an example of services being rendered by the Transport Company to the Electric Company:

During the past twelve-month period ending August 31, 1940, a total of 657 inter-company orders have been received by the rolling stock department of The Transport Company
—2,045—

from the Electric Company electric and heating utilities. These orders were for a great variety of manufacturing operations and services, which the rolling stock department, with its tool equipment and personnel can perform efficiently and at low cost for the Electric Company.

Such an arrangement eliminates the necessity for the Electric Company to duplicate tools, facilities, and the personnel, for such manufacturing operations and services, and in total the work is performed at a lower cost to the Electric Company than the cost of contracting for these manufactured items and services with outside companies.

4634

I say that because the boys are very careful to go out and get prices where there is any question in their minds. When they have budgets, within the limits of which they have to keep, you can be sure they are not unnecessarily giving away any money, and in border line cases, I have heard some very definite discussions on, "Why don't you do this to make it cheaper; you can sell it to us at a lower cost," and so forth.

4635

The major service for the Electric Company is the purchasing of automobiles and trucks used by the various departments, the designing and construction of special bodies for such trucks as required, and the maintenance, servicing and housing of these trucks.

At the present time there are 168 such automobiles and

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Gould W. Van Derzee—By Respondents—Direct

trucks, which are owned by the Electric Company, and maintained, stored, and serviced, by the rolling stock department.

The rolling stock department personnel is trained in the care of the large fleet of The Transport Company's—the buses and trucks—and is well qualified to maintain Electric Company-owned automotive vehicles.

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Space available in The Transport Company garage and other buildings is used for housing these vehicles, all of which eliminates the necessity for the Electric Company to have duplicate facilities and personnel for taking care of these cars.

The rolling stock department, you understand, is housed at the Cold Spring shops.

We talked about the shops this morning. The department that lives there is this department known as the rolling stock department.

4638

The rolling stock department has other buildings and car stations for the maintenance of cars as they come in every day, but its main shop facilities and operations are at the Cold Spring shops.

The rolling stock department engineers specialize in the study of methods for promoting gasoline and lubricating oil economy in automotive vehicle operations.

The experience and knowledge of these engineers is used in establishing standard practices and procedures for care and operation of the automotive vehicles owned by the Elec-

—2,047—

tric Company.

Gasoline and lubricating oils, used in both The Transport Company and the Electric Company vehicles are in accord-

Gould W. Van Derzee—By Respondents—Direct

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ance with specifications and test data prepared and accumulated by the rolling stock department engineers.

The procurement of State Motor Vehicle Department and City licenses for automotive vehicles, owned by the Electric Company, is also handled by the staff of the rolling stock department.

The Cold Spring shops of the rolling stock department are so equipped and manned as to be in a position to manufacture and perform services for the Electric Company efficiently and at low cost.

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The shop divisions, with a brief review of more important work performed in each division, has value at this point, and I will enumerate these divisions and principal functions very briefly.

The paint division handles vehicle washing and cleaning, vehicle painting, sign painting, seat upholstery, cloth cutting and sewing, leather work.

The carpenter division of the rolling stock department handles overhaul and repair of vehicle bodies, the construction and reconstruction of vehicle bodies, mill work, cabinet work, pattern work, and sheet metal work, as required, and

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glazing.

The bus repair division handles general inspection of automotive vehicles, overhaul and repair of automotive vehicles, cleaning of chassis and mechanical parts, construction of special truck bodies.

The forge division has a blacksmith shop and does forge work and blacksmithing. As required, it does heat treating, rail bending, and track, special work assembly, tool dressing and oil and waste reclamation.

4642

Gould W. Van Derzee—By Respondents—Direct

The motor and truck division of the rolling stock department handles the overhauling of railway car trucks, air piping and electric wiring. Pipe shop work is done as required. Air tanks are tested and repairs made to wrecked steel car bodies.

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The machine division of the rolling stock department does car wheel and axle work, heavy machine operations, light machine and bench work as required, automotive engine and other automotive parts overhauling and repairing; plating, lacquering and buffing work; air compressor and air equipment repairs, and has a tool room.

The electrical division of the rolling stock department does repairs to electric motors and overhauling of same, armature and field coil winding and rewinding, winding of armature coils and control equipment coils, automotive electrical equipment repairs, control equipment repairs, repairs to track switches, telephone boxes, signal boxes, et cetera; armature commutator turning, slotting, et cetera.

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4644

There is a foundry in the rolling stock department, and it handles brass, aluminum and non-ferrous alloys, as required; the tinning and babbitting of bearings, and sand blasting.

The furnace department handles the fabrication of steel, assembly work, oxy-acetylene and spot welding that is required.

The plant maintenance and boiler room of the rolling stock department handles maintenance and repair of heating, electric wiring and plumbing equipment, and it includes the Cold Spring boiler plant operation and takes care of inspection of elevators around the property.

Gould W. Van Derzee—By Respondents—Direct

4645

The tire division handles tires and tubes; disassembled repair, and assembling, on wheels.

The foregoing outlines the general character of the work performed at the Cold Spring shops.

The shops are well-equipped with tools and they are well-staffed to overhaul, construct, and rebuild railway cars, trackless trolley cars, motor buses, miscellaneous gasoline equipment, and other equipment mounted on wheels.

Further, it performs much of the manufacturing of repair parts for this equipment, with tools, facilities, and organization for this work.

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It is capable, without additional equipment or supervisory personnel, of performing many manufacturing operations and

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services for the Electric Company.

Rolling stock department shop costs, which include overhead and billing charges, are checked against outside companies' prices and deliveries for the various items, and the shops are favored with this work only when it is economical for the Electric Company to do so.

I think you will see, from the number of inter-department orders of various kinds, that have gone through in a year, that there are many instances in which it is favorable for the Electric Company to make use of the manufacturing facilities of the rolling stock department of The Transport Company.

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When the separation of the properties was made, I wanted to see personally just what was involved in this inter-company work, and so I directed that all of the inter-company orders from one company to the other must pass over

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Gould W. Van Derzee—By Respondents—Direct

my desk for personal signature and I do see and sign all of those orders.

My purpose was to get an executive quantitative look at the nature of these inter-company transactions.

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Sometimes when I don't understand the nature of the work I make inquiry as to what it is. That is not so true with respect to orders to manufacture a few bolts, or some such group of items, but frequently The Transport Company will send in an order reading, "Charge us for the rental of space occupied in some building for the year nineteen so-

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and-so on the following basis and the following amounts."

I usually send those up to the research bureau to find out if the rental has been made in accordance with the agreements approved by the Public Service Commission, and, if they have been so made, put my initials on and send the order on.

I just happened to remember one item that came through not long before I left. It was, "Make 5,000 pole tags for Wisconsin Michigan Power Company."

4650

I just mention that to indicate that the orders are not all for The Transport Company that go through.

Q. Or for Wisconsin Electric Power Company? A. That is right.

(Discussion off the record.)

Q. Do the Cold Spring shops of The Transport Company perform any services for Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company? A. They do, but they are not of quite the magnitude of the Electric Company.

Gould W. Van Derzee—By Respondents—Direct

4651

Q. Can you give us some idea of the nature of the orders received by The Transport Company from the Electric Company? A. The nature of the orders received and the amount of manufacturing work for the Electric Company at the Cold Spring shops naturally varies a great deal from month to month.

—2,052—

A review of such orders received from the electric and heating utilities for the past twelve months reveals a large number of different kinds of orders from the various departments.

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Now, as to items manufactured or repaired for the electric distribution department of Wisconsin Electric Power Company, there are 54 different types of operations, among which I might mention making cable bushings, rewinding coils, machine manhole lids, making switch hooks, repairs to junction boxes, welding transformer cases.

An analysis of the orders received by The Transport Company from the sales department of Wisconsin Electric Power Company shows five different kinds of operations, two examples of which would be weld coils, clean and dip electric refrigerator parts.

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The same analysis shows that the power plant department sent in nineteen different kinds of orders to The Transport Company, rolling stock department.

These are some examples:

Make and repair patterns.

Make bronze, copper, and brass castings.

Make thermo-couple connectors.

Furnish glass.

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Gould W. Van Derzee—By Respondents—Direct

Maintain locomotives and other rolling stock used in the power plant yards.

—2,053—

The purchasing department apparently has sent in six different kinds of orders to the rolling stock department, such as:

Repair trucks.

Make roller towels.

Repair chairs and furniture.

4655

Even the advertising department of the Electric Company has two typical types of orders to the rolling stock department:

Make truck top signs.

We utilize the tops of all of our trouble cars and appliance repair cars to have electric company signs, advertising seasonal operations of the sales department, refrigerators, lamps, electric cooking.

There are little frames resting on the tops of the cars, into which cards can be inserted showing such advertisements.

4656

There is one inter-company order from the real estate department of the Electric Company, requesting the Cold Spring shops rolling stock department to mount maps.

The accounting department sent in four different types of orders, such as:

Overhaul and repair coin separator.

Repair cash boxes.

Make cloth bags.

Make bill distributor bags.

—2,054—

I think it is evident that the accumulated effect of all these inter-company transactions is very substantial and that there are substantial economies as a result of the availability of these facilities operated by people in the family.

Mr. Browning: We are prepared, Mr. Examiner, to give considerably more detail on this type of thing. For example, we have a list of 91 different operations, which could be enumerated, within the classification which the witness has just described.

We had not felt that greater detail was necessary, but if the Commission counsel want us to give more detail, we should be very glad to do so.

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Miss Calkins: I don't believe that it is necessary.

By Mr. Browning:

Q. Does the garage of the Electric Company render any services with regard to vehicles owned by The Transport Company? A. It does. The electric distribution department garage of the Electric Company, which is located right near the Cold Spring shops, in addition to maintenance of all electric trucks used by that Company, provides convenient storage space for servicing of some of The Transport Company's trucks.

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The vehicles which are stored in the Electric Company garage are the line trucks which put up the overhead trolley

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for the railway system, and the double trolley for the trackless trolley cars, and at that point are also stored a number of parts required for overhead construction, because it is more convenient, on account of the availability of space, in

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Gould W. Van Derzee—By Respondents—Direct

keeping that overhead construction material used in Transport Company operations at that point where the trucks are stored.

This particular, relatively small amount of stock, for the purpose indicated, is really owned by the Electric Company. It was not transferred at the time of the separation. Ultimately that stock may be transferred to The Transport Company.

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Proper accounting exists between the two companies with respect to disbursements of such Electric Company stock for Transport Company's purposes.

The Electric Company and The Transport Company have an agreement, whereby either company will provide the other with available vehicles on a car-hour rental basis, sort of a taxicab service.

The arrangement is especially advantageous in the case of special equipment with low use factor, such as trucks equipped with hoists, derricks, and so forth.

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In general, even with standard equipment, the interchange agreement makes possible a lower total investment in vehicles, since, in any operation involving large numbers of trucks and passenger cars, a certain amount of dead storage time is involved.

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The coordination of the garage and fleet facilities reduces the idle time to the very minimum.

These facilities are used, say, in such an instance:

The real estate department needs an extra car to go to a certain point at a certain time. It only has one car. It applies to The Transport Company for a car it may have on hand.

Gould W. Van Derzee—By Respondents—Direct

4663

Similarly, The Transport Company may come to the Electric Company for a car or truck, to avoid buying one.

Q. Is there any joint arrangement with respect to a common medical department? A. There is; through an arrangement between the Electric Company, The Transport Company, the Employees' Mutual Benefit Association, and other affiliated Wisconsin companies, the Electric Company's Public Service Building at Milwaukee maintains what I think is a truly remarkable medical and surgical clinic.

Without the cooperative arrangement between the companies the present excellent facilities could not exist.

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In addition to the clinic, emergency operating room, and consulting rooms, the facilities include complete X-ray and fluoroscope equipment, bacteriological and physiological laboratory, physiotherapy facilities.

That refers to these new facilities for short wave heat-treating, where you have to get down deep with the heat.

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The facilities and services of the medical department are available in cases of industrial accidents or illness involving employees of any of the affiliated companies.

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The department also serves transportation passengers or customers requiring emergency attention or later treatment due to accidents involving the service or equipment of the companies.

The medical department also serves the Milwaukee area by conducting all physical examinations prior to employment by applicants of the affiliated companies.

The chief surgeon and assistant chief surgeon of the Electric Company serve affiliated companies in other cities

4666

Gould W. Van Derzee—By Respondents—Direct

in Wisconsin, either in a consulting capacity or for surgery requiring special skill.

Dr. E. W. Miller, who is the chief surgeon, and also medical director of the E. M. B. A., is a very skilled surgeon of considerable renown in Wisconsin.

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Many times I have heard him say, "Well, I am going down to Burlington," or "East Troy", or someplace like that, "to-night. So-and-so has to have an emergency operation for appendicitis," meaning someone on the Wisconsin Gas & Electric System, or someone located elsewhere.

The cooperative arrangement has demonstrated its many advantages to the affiliated companies and to their several thousand employees.

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I testified yesterday, in connection with things which have been done to promote employee relations. I talked about the inception of the E. M. B. A. and the medical service that it gives.

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It just so happens that that idea was formulated and fostered by the president of The North American Company in 1912, and I repeat that it is one of the greatest influences that I know of, in creating employees' satisfaction with their work. It is a great thing for an employee to know that all of his medical attention is taken care of, for himself and wife and dependent children up to 18 years of age, by the mere payment of 75 cents a month.

It is really the equivalent of an insurance operation. The funds are pooled. Everybody isn't sick at the same time. But the total amount that was paid in by the six thousand odd members of the several companies provides a working

Could W. Van Derzee—By Respondents—Direct

4669

fund which, of course, the companies duplicate, which enables our employees to enjoy a degree of medical attention that I doubt is surpassed or even equalled in many places in this country.

Q. Does this pooling of facilities by the affiliated companies result in economies? A. There are unquestioned economies from the pooling of these facilities, that are almost self-evident.

No one company could hope to duplicate the medical department that we have on the fourth floor of the Public Service Building, except Wisconsin Electric Power Com-

4670

—2,059—

pany, and even that company gets benefits from the joint use by other companies.

Q. It reduces the expenses of that company? A. Anything contributed by the other company helps the company that would otherwise have the full load in any of these operations.

Mr. Browning: Mr. Examiner, we are using the term, "affiliated companies" throughout this testimony, and I think perhaps the record should show that, when using that term, we are referring generally to the corporations included within the so-called Wisconsin Michigan group of subsidiaries of The North American Company.

4671

Could we take a few minutes recess?

The Examiner: We will have a five-minute recess at this time.

(Whereupon a short recess was taken.)

4672

*Gould W. Van Derzee—By Respondents—Direct**By Mr. Browning:*

Q. Will you state what work the advertising department of Wisconsin Electric Power Company perform for The Transport Company? A. The advertising department of the Electric Company is equipped and regularly performs advertising and publicity work for both the Electric Company and The Transport Company. With the combined function, it is possible to maintain a small group of advertising special-

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4673

ists with the necessary diversification of skill at a good load factor. Without the combined function, it is doubtful if either company alone could justify such an organization as a department of the company.

Careful investigation has repeatedly indicated that, from the standpoint of cost, such an organization is advantageous to both companies.

This is the little group that, prior to the separation, did the advertising for The Milwaukee Electric Railway & Light Company, and it has just continued to do that work.

4674

Q. Now, will you describe the inter-company services performed by the employee-training division of Wisconsin Electric Power Company? A. A division of the Electric Company is set up to conduct training work, which may be divided into the following activities:

Training.

Library services.

Accident prevention.

Special services.

A staff of trained people in the field of employee education is a part of the organization of the Electric Company.

Gould W. Van Derzee—By Respondents—Direct

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In some activities, training is done directly by members of the staff, while in others it only supervises the training program.

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One of the major activities is a foremen conference program, designed to bring about improved supervision, particularly with respect to employer-employee relations.

The meetings planned and material prepared for this program can, in many instances, be used in The Transport Company with little additional time spent or material used.

4676

Prior to the separation of the companies, the 400 or more so-called foremen met in little groups of 25 or 30, with representatives from various departments of The Transport Company, and the Electric Company together in a room, to learn about the other fellow's business and to discuss various types of programs and projects.

In that meeting, a representative of this training division is present and he does as little talking as possible, and merely directs the course of the discussion.

Since the separation, we have tried to keep up the same general type of program, because of the great advantages in it and I think we are successful in doing that.

4677

An apprentice-training program is supervised and counseled by the training division for The Transport Company, because contacts with vocational schools and regulatory bodies have been established by the Electric Company training division.

The machinery for the production of manuals, visual education material, posters, instruction books, having been

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4678

Gould W. Van Derzee—By Respondents—Direct

established for the Electric Company, is available for producing similar material for the training of transportation employees, with reduced overhead costs to both.

I recollect, not long ago, that Mr. Nielsen, the educational director, was preparing a film to be shown throughout the various car stations to the trainmen,

It was an address by Mr. Pinkley, the president, followed by statements by the superintendent of transportation, Mr. Kuemmerlein, comments on labor and other things which

4679

were thought wise to put into the film.

That was prepared completely by this training division which was once the training division for both companies and now is formally the training division of the Electric Company, but made available for The Transport Company.

A member of the training division's staff is designated to do job training for car, bus, and trackless trolley repair men.

He has the supervision of the educational directors, stenographic and clerical help, and all training aids of the training division.

4680

The members are also available for special assignments during emergencies—if the foreman is ill, around vacation, or if a peak inspection period develops, assistance from this individual has proved to be helpful.

The training of office employees involves practically the same procedure in both companies.

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Bulletins, courses of study, manuals of instructions, are invariably conducted jointly.

While the Electric Company has by far the greater number of office employees, the addition of The Transport Com-

pany employees in any of these activities entails little extra expense.

The Electric Company, at its main office building, maintains a library of technical books, trade magazines, periodicals, and pamphlets.

Magazines are ordered, circulated and filed. Centralization of this function avoids duplication and reduces overhead charges.

Accident prevention activities are primarily educational in nature and as such are a part of the employee training division.

4682

Program plans incorporate investigations and reports of accidents and also safety inspections and reports. Information concerning accident prevention equipment and material is gathered.

Investigations are made and recommendations are presented relative to the use of such equipment and material. Rules for safe conduct of work are developed and revised if necessary. Posters and bulletins are obtained or prepared and used extensively to further accident reduction.

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Safety codes and publications are obtained regularly for use in the program. Safety meetings are scheduled frequently. Articles are prepared for the employees' magazine which is known as the "Rail & Wire."

Statistical reports and accident studies designed to indicate the progress of the program are prepared periodically. Special studies of specific factors in accident prevention are pursued as it appears advisable and pertinent. Reports prepared in the industry are studied. Contact is maintained with the National Safety Counsel at small expense.

4684

Gould W. Van Derzee—By Respondents—Direct

The company engages actively in accident prevention presentation of the Milwaukee Safety Commission and the Milwaukee Association of Commerce.

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These items and other activities pursued toward the reduction of industrial accidents are planned and reviewed regularly by a committee of executives and department heads. Since the problem of industrial accident prevention is very similar in the Electric Company and in The Transport Company, the latter company is also represented on this committee and has available and uses the items of the program.

The Transport Company also has available from the Electric Company the services of its superintendent of accident prevention. Such consideration of industrial accident prevention by both companies is decidedly more advantageous and effective than would be divided consideration by separate accident prevention organizations.

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4686

The prevention of public accidents in transportation service is an important activity in The Transportation Company. The program covering this phase of accidents is under the direction of the transportation accident prevention committee composed of several of its executives and supervisory staff. The superintendent of accident prevention, of the Electric Company acts as its secretary, follows the assignments and assists in the development and pursuit of its program.

The training division is frequently called upon to assist in such special activities as contests for employees, dealers or the general public and the gathering of information from questionnaires and replies to requests for data.

The experience of the employees of the training division is available to The Transport Company for such special activities. This, I think, is another example of the joint use of facilities which effect economies in this direction.

Q. Is there any joint use of employment facilities? A. Yes. We have a great variety of occupations in the electric heating and transportation business and many of these occupations can be filled only by employees who have undergone rather extensive periods of training.

In order to select employees who are capable of developing into responsible operating employees, a testing program has been developed by the electric company.

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An employment personnel has been established to develop
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and administer selection tests, that are used not only for new employees but also for employees that are to be transferred. Many years ago in this educational and employment division, we devised a special apparatus for testing of motor-men. We tried to find out if there was such a device that he could operate on before his employment which would register some of his characteristics as to quick reaction time, safety in emergencies, and the like.

4689

We spent quite a little money and considerable time working on that. We had with us at that time a man by the name of Vitiles, who was very helpful in the development of that work and he later went with the railway.

We have had occasion to back-check on our judgment in using this selection test machine and we find that we have had rather good results from it.

4690

Gould W. Van Derzee—By Respondents—Direct

We have developed other types of tests for stenographers and they are rigidly put through a course of inquiry into their qualifications by the employment office before they are employed.

We attempt in all possible ways to sift out those who will not make good public service operators.

4691

The Transport Company has problems similar to those of the electric and heating utilities. Experienced car and bus operators are not available on the open market. It is necessary to select candidates for employment who are likely to succeed after a rather extended training period.

—2,067—

Failure to become a competent operator after time and money have been spent is a rather expensive procedure. In view of the rather specialized employment problems mentioned above, it has been found most economical and advantageous to operate a single employment bureau and have all selection tests conducted by one trained group of employees.

4692

Not only does the operation of the centralized employment bureau eliminate the necessity for duplicate records, office space and office equipment, but it also results in obtaining of applications from a much larger number of people which in turn broadens and improves the field of selection.

The employment applications contained in the employment bureau are available to and made use of by Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company in addition to The Transport Company.

Another important advantage made possible by the operation of a single employment bureau is that it provides a medium for the clearing of employment information and it

makes possible the leveling out of employment peaks and valleys.

Work in the various divisions as well as between companies can be scheduled so as to maintain continuous employment for the maximum number of people. The providing of more regular employment for employees performing certain types of work not only improves the position of these employees but the company is also benefited through the

—2,068—

reduction of unemployment compensations and the training costs which are also present in short-term employment, even in the less skilled occupations.

Q. Does the Electric Company use the claim department of The Transport Company? A. It does. Before the separation of the two companies there was one claim department and the major amount of the claim work was in the transportation end of the business.

When the companies were separated, The Transport Company undertook with the same group of people the problem of handling the claims of the electric company, even though they operate in the transport building which is a separate building from that of the public service building in which the main office of the Electric Company is housed.

The Transport Company, because of the nature of its business, has many claims filed against it for transportation accidents and alleged accidents as well as a host of minor claims and over the years this work has of necessity been taken care of in what we call the claim department, with a well trained staff of investigators and agents, as well as an

4696

Gould W. Van Derzee—By Respondents—Direct

office force to handle the files of important records of claim cases.

It is quite important to keep that file because every now and then some fake accident is reported, sometimes you can trace back in the files that the same individual has tried it once before. You may not think that it is possible to do that

—2,069—

but it is.

4697

The Electric Company, because of the very different nature of its business has relatively few cases involving claims for accidents or due to the conduct of its business. The ratio of claim cases is about one electric case to nine transportation cases. Because of this situation, the electric company cannot justify a full-time claim agent and the necessary assistance. A part-time functionary would be possible, but claim settlements is a specialty involving great attention to detail, knowledge of accidents and their causes, knowledge of people and how to deal with them in such a way as to arrive at a just and fair settlement commensurate with the company's responsibility.

4698

I don't know of any branch of the company's business that is quite as important from the public relations standpoint as the claim department. A person who hasn't had his claim settled to his satisfaction is bound to be a sore spot for a long time so we have tried to instill in our claim forces down through the years, the fact that they are not only working to keep down the cost of claims, but they are working to preserve proper public relations.

Rather than establish its own claim department, the electric company has taken advantage of the availability of the services of the well trained and efficient claim department

W. Gould W. Van Derzee—By Respondents—Direct.

4699

of The Transport Company and has contracted with that company to handle all of its claim work.

—2,070—

I will be able to tell you, when we discuss the method of inter-company charges, how the claim charges and costs that accrue against the Electric Company are paid to The Transport Company.

I think it is evident that with the small amount of claim work which the Electric Company has, the Company could not afford to set up a claim department such as it was used to having, when the two companies were together, but there is no good reason why it should not make use of this well trained and efficient claim staff and it does just that and it is an economical thing to do.

4700

Q. Will you describe the joint use of the printing department of Wisconsin Electric Power Company? A. The printing department of Wisconsin Electric Power Company produces the major portion of all printing work required by the electric and heating utilities of the Electric Company and The Transport Company.

In the separation of the companies, this was a problem of deciding whether the printing business should go with The Transportation Company or remain with the Electric Company and it was decided that it was proper that it remain with the Electric Company on account of the vast number of different kinds of forms used and the growth of the Electric Company which was ahead.

4701

The output of the printing department consists of electric service bills, payroll checks, office forms, advertising matter for the electric and heating utilities, railway and

—2,071—

4702

Gould W. Van Derzee—By Respondents—Direct

4703

motor bus fare tickets, transfers, passes, schedules, office forms, checks, and advertising material for The Transport Company. This printing material is furnished at a low cost because of the highly efficient use of capital, labor and material made possible by the combined use of the printing department by the electric and heating utilities of the Electric Company and by the The Transport Company, and the efficient use of specialized machinery in the maintenance of high load factor upon the machines. The combined orders for printed material are sufficient to fully utilize the capacity of several types of presses. Each job is turned out on the press most suited for the work and by specialized employees.

4704

The combined volume is sufficient to permit simultaneous operation of two or more automatic presses by a single operator. The combined volume also permits adequate equipment which can be quickly made available for work of a special nature, unusual volume, and work requiring rapid completion. One special advantage of the diversified equipment and personnel which is made possible by the combined work of the electric and heating utilities in The Transport Company is the complete and accurate control of all valuable papers which are printed.

Transportation tickets, for example, passes, transfers, have a substantial cash value. Payroll and voucher checks are examples of other printed material which requires

—2,072—

special care to avoid theft.

Because the volume of combined work permits the use of several identical pieces of equipment and several employees of the same skill, the printing and other operations

on valuable papers can be handled in a specially enclosed portion of the shop by a certain employee who can be made responsible for every sheet of paper or cardboard issued to them for printing.

This is possible because on the days when such valuable papers are printed, the main press room can go on with the regular production of miscellaneous material while a few employees can devote full time to the one job of printing the valuable papers.

We check up on every sheet of paper issued to the printing department for ticket stock—torn sheets, destroyed sheets for one reason or another, together with the sheets of completed tickets so that there is no stock left and it is very important that this be done. 4706

The material cost of printing is, of course, reduced because of the joint use of printing facilities, since paper, ink and other printing supplies can be purchased advantageously in larger quantities.

I think we mentioned yesterday that the fact that we operate rather efficiently must be the case since we could not expect that that Capital Transit Company would give us the business at the prices we charged if they could buy —2,073— 4707

them here with better work or lower prices.

Q. Is there common use of a physical and chemical laboratory? A. Before answering that question, I would like to add at the end of the discussion on the printing department that the printing department of Wisconsin Electric Power does a very substantial amount of business for Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company at advantageous prices.

4708

Gould W. Van Derzee—By Respondents—Direct

(Discussion off the record.)

—2,074—

Miss Calkins: Mr. Van Derzee, is the Capital Transit Company, located in the District of Columbia, the only other subsidiary of The North American Company for which the printing department does work?

4709

The Witness: Outside of the Wisconsin-Michigan group, that is true. There are certain limitations to the amount of that kind of work that one can do effectively.

We are not seeking additional outside work.

By Mr. Browning:

4710

Q. Now, will you describe for us the joint use of the physical and chemical laboratory? A. The electric company maintains a well equipped and staffed testing laboratory, primarily for the purpose of testing coal samples and other materials and supplies used in the electric and heating utilities.

Availability of such a laboratory has provided a convenient and economical service for The Transport Company in testing materials used in the construction and maintenance of street railway property.

One of the major services performed by the testing laboratory for The Transport Company is a testing of physical properties of concrete used in the construction of buildings and pavement. Other tests performed by the laboratory include such items as steels, varnishes, disinfectants, weed-

Gould W. Van Derzee—By Respondents—Direct

4711

killing solutions, coal, acid and other material carried in the store rooms.

—2,075—

The weed-killers are used on the right-of-way of the inter-urban lines.

Testing welds made by track welders has improved the efficiency of welders and reduced the number of expensive track repairs caused by broken track welds.

Street car wheels and axles are purchased in accordance with rigid specifications. The testing laboratory tests and analyzes the steels to check on the specifications. 4712

Q. Is there a joint use of the pipe shop? A. Yes, pipe cutting and fitting becomes a sizeable task in the maintenance of power plant equipment when several large power plants, smaller heating plants and steam heating distribution systems are involved, taking care of this work.

A pipe shop has been equipped with pipe machines and a group of steamfitters and brick masons trained in the field of the work principally for the electric and heating utilities. A relatively small amount of heating equipment maintenance which The Transport Company has each year would not justify the organization and equipping of a pipe shop entirely for the transport operations. 4713

The additional pipe work which The Transport Company furnishes, can be economically done by the present large force of the electric company pipe shop because it can be done during slack periods and thus provide an established work schedule for the pipe shop group.

—2,076—

The boilers at seven car stations and one repair shop are inspected annually by these same pipe shop employees. Any

4714

Gould W. Van Derzee—By Respondents—Direct

pipes needing replacement or brick-linings in need of repair are taken care of at these inspections. A distinct advantage of having a pipe shop so conveniently located is the stock of fittings and valves carried for the electric company work.

This greatly reduces delay and obviously reduces the cost to The Transport Company. In the event of a failure of any of the heating units of The Transport Company buildings, delays in repair are reduced materially because a large group of trained employees are available at the electric company.

4715

From time to time, the street railway shops need odd pieces and sizes of pipe which can be obtained from the scrap piles of the pipe shop which reduces the amount of waste material for the electric company and produces low-cost source of material for The Transport Company.

A group of plumbers have their headquarters at the pipe shop although they are organized under the heating utility. Plumbing repairs in The Transport Company buildings are made by this group on inter-company orders.

4716

Installations of plumbing fixtures have been standardized throughout the two companies, which means that a group experienced with maintenance in one company can effectively take care of the work in the other company.

Q. Does the plant engineering department of the electric

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company perform any inter-company services for The Transport Company? A. Yes, the plant engineering department I described yesterday in some detail and is one of the divisions which does work for the other companies, in the blueprint division. In addition to work for electric utility, em-

Gould W. Van Derzee—By Respondents—Direct

4717

ployees of this division perform all the blueprinting work for the heating utility which embraces reproductions of plant lay-outs, plant equipment, underground systems, service installations and statistics.

Blueprinting is also performed for The Transport Company for all tracings which are in file in the plant engineering office relating to the properties of The Transport Company. This joint operation of blueprinting for the heating utility and The Transport Company, permits of a greater load factor for the blueprinting machine which in turn results in a smaller unit cost per copy.

4718

It also allows for more efficient use of labor and materials as the volume of work rates a highly specialized type of worker and promotes operating economies.

Q. Is this also true of the photostatic division? A. Yes, the plant engineering department has a photostatic division. This division makes photostatic copies of correspondence, statistics and documents for the electric and heating utilities of the company and for The Transport Company. The

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investment in the photostatic machines is a large one and the volume of work to be performed is limited. Joint use is necessary in order to justify the expenditure for the present equipment.

4719

Of course, a great deal of equipment of that kind was there when the two companies were together and it was justified by having the work that the transportation and electric and heating departments of the then Milwaukee Railway & Light Company provided.

Now that they are separated, there is the same work for the machine. You can't afford to get two machines where one

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Gould W. Van Derzee—By Respondents—Direct

will do the work. You would have two men working on two machines.

We have a drafting and engineering division of the plant engineering department. Engineers are engaged in drafting and engineering work for the electric and heating utilities and for The Transport Company where structural and architectural work is involved.

4721

This may occur in the redesign of plant lay-out, rearrangements of plant equipment, modernization programs or new installations to attract new business and decrease cost of operation. Because of the wide experience of the engineers in similar work for the electric company and the singularity of purpose, this work can be done at the lowest possible cost and provides sufficient fill-in work to keep the engineers employed steadily.

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We don't, in this division, take care of the engineering work, drafting, which is 100 per cent. peculiar to the transportation company.

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It has its own engineers on track lay-outs and operations of that kind in the transport building.

There is another division called the building division of the plant engineering department. All work which would require additional expense for labor and special work which can not be conveniently handled by the heating utility or The Transport Company, because of their scope, and the fact that the work is infrequently performed, is assigned to the electric company's building division.

This work involves air-conditioning of buildings, painting of bridges, mason and shoring jobs, carpentry, painting and glazing work, and general maintenance of buildings of

the electric utility, the heating utility and The Transport Company.

These four divisions are concrete examples of economies that can be obtained from the plant engineering department by virtue of doing work for other companies which are affiliated.

Q. Is there any joint use of the purchasing and storage department of the electric company? A. The general office division of the purchasing and storage department performs both purchasing and stores service for The Transport Com-

4724

—2,080—

pany and heating utility in addition to the services performed for the electric utility. Some of the services which are performed for other than the electric utility follow:

The first is under the heading of the purchasing division. Purchasing services are performed for both the heating utility and The Transport Company. These services cover the purchase of stock materials, purchases for direct delivery and contract purchases, and embrace the operation of obtaining price quotations and the determination of reliable vendors who sell us the goods, placing the order and following the order right through to point of delivery. Passing of invoices to the accounting department for payment is also included.

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Since the efficient performance of purchasing operations requires experienced personnel and careful attention to both current and future prices and conditions, it is more economical to have the purchasing services for both companies performed jointly by a single group than to set up several purchasing groups in each company.

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Gould W. Van Derzee—By Respondents—Direct

In the purchasing and stores department is also the division of the stores department. This division maintains a perpetual inventory record of all stock material carried in the store room, of the electric and heating utilities and The Transport Company; physical inventories are made upon the request of this division and all differences between the physical and book values are carefully reviewed and investigated.

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4727

Joint performance of these operations by one group and under the supervision of one individual, eliminates duplication in personnel, records and equipment and results in lower cost for both the electric company and The Transport Company.

4728

Q. Is there common janitor service? A. The janitors in the Public Service building are under the direction of the purchasing and stores department. The electric company operates janitor service for the entire building which includes services for offices occupied by the heating utility and the waiting station, car shed and car station of The Transport Company in the Public Service building. Individual performance of janitor services by The Transport Company and the heating utility would add to the personnel and supervision required and increase the cost to all concerned.

Q. Is there joint use of the real estate department? A. There is. The real estate department of the company maintains a staff whose broad knowledge of all problems concerning real estate is available to the electric and heating utilities and also to The Transport Company.

The maintenance of a separate real estate department by The Transport Company is not justifiable when it is considered that the volume of work is sufficient only for one employee. Such an employee could not have the broad knowledge in all the related fields which is now available through a larger trained group.

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It is in the interest of economy, efficiency and flexibility that a trained staff be maintained to provide joint service.

Problems and transactions which are wholly or partially assumed by the real estate department for The Transport Company and which are also regularly handled for The Transport Company, including the following:

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Purchase of properties needed for operation, disposition of properties no longer required, obtaining local tax bills and checking, checking assessments on non-operating properties to determine that they are equitable, and if they are not equitable, then the real estate department sees the assessor and puts in the usual story about what is a fair assessment.

Payment of local tax bills, insuring that operating properties are exempt from local taxation; sometimes the character of a building changes and operations that were non-utility become utility operations and when that occurs it is the duty of the real estate department to follow it along and see that there is no local taxation on such a piece of property, that that is included in the ad valorem assessment made by the State on operating properties.

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The care, maintenance and rental of non-operating properties is handled under the direction of the real estate de-

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Gould W. Van Derzee—By Respondents—Direct

partment. It obtains permits for overhead trolley lines, including attachment of wires to buildings and similar duties.

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There is, in my opinion, very distinct and important economies in having this real estate department which formerly operated for both the electric, heating and transportation divisions of the old company continue in this work doing the same job for the companies which have been separated.

4733

Q. Does the power plant department of the electric company render any joint service? A. The power plant department operates all electric generation plants in the district heating system, and also the power plants furnishing steam to the district heating system. This centralized operation of power plants and steam service facilities for furnishing steam to the heating system has the following advantages:

The common usage of improved operating methods developed by large central stations such as Lakeside, maintenance crews of electric generating plants available for use in making repairs to heating boilers.

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The labor of heating plants during off-heating seasons is used in electric generating plants for vacation relief and maintenance work.

That materially improves the load factor and reduces unemployment compensation. Experience, supervision and testing of crews maintained for electric generation eliminates duplicating these services for heating plants. Experience gained in plant design and construction of rapidly extending electric generating plant made available when extensions or

—2,084—

replacements are made in heating plants and service facilities. The steam furnished to the heating system is supplied from either boilers operated at approximately 165 pounds and supplying steam directly to low or high pressure systems, or from the exhaust of turbo-generators such as the 13,700 kilowatt machine that I described yesterday or the day before as being located there and performing the dual function of electric and heating production.

This combination of electric generation and by-product steam to the heating system has the following advantages, some of which I have previously enumerated. 4736

Investment required in plant equipment in a combined plant is less than that required for separate plants and equipment to carry the same electrical and steam loads.

Steam generation by the boiler of the combined plant being used for both electric generation and steam for heating, reduces the total boiler capacity required considerably. The largest single loss of a condensing steam generating unit is eliminated by supplying the exhaust steam from the turbine to the heating system instead of to the condenser.

This large saving in heat consumption could only be made by a combination of electric and heating load. At the East Wells Street Power Plant, the heat consumed per net generated kilowatt hour, while exhausted to the heating system is about 5,000 B. t. u. 4737

—2,085—

I think I went into that matter in some detail yesterday.

Q. I think you did. A. And I think I sufficiently explained the great economies that come from joint operation.

Q. I think you did. A. By taking out of the steam at high pressure a kilowatt hour before the steam is sent to

4738

Gould W. Van Derzee—By Respondents—Direct

the heating system. Substantial savings in operating costs such as labor, maintenance and supervision, are realized in the combined plant due to the reduced boiler capacity required to be operated to carry the combined load.

Q. Does the electric distribution department of the electric company perform any services for The Transport Company and the heating utility? A. The electric distribution department of the electric company performs services for the electric utility, the heating utility, and The Transport Company.

4739

The Transport Company also performs certain services for the electric utility of the electric company.

Following is a brief description of certain instances of these joint operations in the engineering division:

The engineering division performs services for The Transport Company upon order. These services embrace the handling of special problems relating to signal systems and railway feeders.

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The engineering division is also requested to review all proposed feeder changes. The fact that the electric company has a staff of highly trained engineers is of material assistance to The Transport Company and that these engineering services are available to them at a cost far below that which would result if they maintained a complete engineering division of their own or employed the services of outsiders.

Engineering services are also furnished to the heating utility in the form of assistance on certain special problems and in working with the members of the heating utility to maintain proper clearance between underground structures.

Gould W. Van Derzee—By Respondents—Direct

4741

We also have an underground division in the electric distribution department. This division performs services for both the heating utility and The Transport Company. Services performed for the heating utility include primarily the digging of trenches and tunnels.

Inasmuch as the operations of the electric utility require a large amount of tunnel and trench work, performance of this type of work for both utilities by a single division reduces the cost of both by elimination of duplicate personnel and equipment.

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This division performs the underground cable work for the Transport Company. Inasmuch as the electric company has trained personnel and complete equipment for its own use, work can be performed for The Transport Company

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at a fraction of the cost which would be required for The Transport Company to provide duplicate facilities.

The electric company also benefits in these joint operations in that it serves to improve the work load factor and spread overhead costs over a larger volume of the work.

Approximately 935,700 feet of duct owned by the electric company is used for railway cables owned by The Transport Company; that is, all the duct in the separation of the companies was transferred to the electric company.

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We have another division known as the testing division of the electric distribution department. This division performs meter testing services for The Transport Company and the heating utility.

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Relative to work performed for the heating utility, electrically operated meters used to measure pressure in the

4744

Gould W. Van Derzee—By Respondents—Direct

steam mains are tested, adjusted and repaired by this division. Other services performed by this division for the Transport Company are the making of electrolysis surveys, installing equipment in accordance with existing conditions and maintenance of records.

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In view of the fact that the relationships of power cables, railway cables, telephone cables, etc., all have an effect upon each other, it is desirable that this work be performed by a single agency. Again, the performance of all work by a single group eliminates duplication of trained personnel, records and equipment, resulting in lower cost both for the electric company and the Transport Company, and in this same division we have the stores division.

The Hillside store room, in addition to carrying material and supplies for the electric company, maintains a stock of railway overhead and signal materials and supplies for the Transport Company. The store room maintains 24-hour service so that the material can be obtained for emergency use any time of the day or night.

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Reclamation of used material is also performed by this division. Substantial economies accrue to both the electric company and the Transport Company for the joint use of these stores facilities due to the elimination of duplicate personnel, operating and supervision, buildings, equipment

—2,089—

and operation costs. This is particularly true when you consider that these storerooms are open 24 hours a day and the fact that you would have to have three shifts of duplicate personnel if you had to have separate organizations.

In the electric distribution department we also have a records division. This maintains a record of the Transport

Company's railway, field and signal system. Since maps, records, equipment, etc., are maintained by this division for the electric company the handling of these Transport records can be performed at a relatively low cost.

Then we have the trouble division of the electric company which is a division of the electric company which is a division of the electric distribution department, and it provides emergency service to the Transport Company. That is the same thing that it did for the transportation division of the old company before the separation.

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This service covers such items as clearing broken trolley wires and bridging feeder sections to maintain rail service.

Then we come to the telephone division. The electric company maintains a private telephone exchange which serves, in addition to the electric utility, the heating utility of the Transport Company.

Q. Heating utility and the Transport Company? A. And the Transport Company.

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Out of a total of 1,418 instruments the Transport Company uses approximately 271 instruments jointly with the electric company and 318 instruments as direct or full use. This joint use of the private telephone exchange results in lower costs to each, namely the heating and electric utilities and the Transport Company, through reduction in investment and lower operating and overhead expenses.

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That was one of the facilities that it would have been extremely foolish to have duplicated. The railway business requires telephones located on poles at various rail intersections which the trainmen use to call up the company on. The

4750

Gould W. Van Derzee—By Respondents—Direct

telephone system is an extremely expensive investment and it was decided that it ought to remain with the Wisconsin Electric Power Company and that charges be made to the Transport Company for its varying use of the equipment.

This is the largest privately owned telephone system in the state of Wisconsin.

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There are other services which are rendered by divisions of the electric distribution department. The pole crews of the electric company, in addition to performing services for the electric company, set poles for the Transport Company. The service can be performed at a relatively low cost because trained personnel and special equipment are maintained by the electric company.

The providing of duplicate facilities by the Transport Company to perform this work would very substantially in-

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crease the cost to the company. The electric company also receives an advantage from this joint operation in that the additional work tends to spread the fixed operating items of expense and provide more work for the pole crews.

The line crews of the electric company assist the crews of the Transport Company in stringing of railway overhead feeders at times when the Transport crews have more work than can be performed within the allotted time. The furnishing of this service by the electric company makes it possible for the work of the Transport Company to be kept up to schedule without the hiring of additional employees for short intervals of time.

In many instances employees capable of performing the type of work required by the Transport Company are not

Gould W. Van Derzee—By Respondents—Direct

4753

available except in the electric company. Several instances other than those previously mentioned in which the Transport Company performs services for the electric company can now be given.

The Transport Company crews performing trolley maintenance work observe the transmission lines located on the right-of-way and report conditions requiring attention. Transmission lines located on the right-of-way are the property of the electric company. This service is of material advantage to the electric company for corrective measures can be taken before a serious situation develops or outages occur.

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The Transport Company's overhead crews operating in the northern division perform minor maintenance and con-

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struction work on the electric company's transmission, distribution, signal and telephone systems located on the right-of-way. Performance of these services by the Transport Company employees is advantageous to both companies in that it provides a better load factor for the Transport Company crews and eliminates the necessity for additional personnel on the part of the electric company.

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The result of this joint operation is a lower cost to both companies. The signal crews in the Transport Company, in addition to maintaining a feeder system, perform some maintenance operations on the telephone system of the electric company in the outlying locations.

Just at the present time the Transport Company is completing a change of the so-called Eight Street line from rail service to trolley bus service and there is a stretch of some eight miles of this duplicate overhead trolley that has to be

4756

Gould W. Van Derzee—By Respondents—Direct

placed on each side of the street. That is a tremendous job and the electric company in such instances helps out with any reserve forces that it has in that type of work. The trolley bus operations are extremely interesting and overhead trolley work for trolley buses is several times as complicated as overhead trolley work for street cars.

Q. Is there any joint use of work equipment? A. There is joint use of work equipment, heavy work equipment used on construction work performed by the companies, or on

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—2,093—

heavy maintenance work. It represents a substantial investment in individual items which have a poor use factor. Such equipment in general cannot be obtained as needed from an outside source on any reasonable rental basis.

It is therefore necessary for the companies to own such equipment as wheeled tractors, caterpillar tractors, air compressors, cranes, derricks, conveyors, hoists, pile drivers, concrete mixers, concrete breakers, draglines, pumps and electric shovels.

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Through an arrangement between the Transport Company and the electric company, each will own such equipment as is most frequently required in its work and will furnish to the other on a daily rental basis any such equipment as may be needed by the other. This arrangement reduces to a minimum the duplication of investment in the same items and classes of equipment. The arrangement also reduces to a minimum the equipment costs charged to the work of the Transport Company and the electric and heating utility of the electric company, in that the fixed charges and maintenance costs of such equipment are spread over greater

hours of use than would be the case without the interchange of equipment.

Q. Can you give us some other illustrations of jointly used property? A. I can; poles. Approximately 8,173 poles owned by the electric company are jointly used by the Transport Company. The electric company jointly uses 21.4 miles

—2,094—

of 600 volt D. C. feeder owned by the Transport Company. This figure does not include negative return. That feeder is used largely for certain 600 volt electric service customers of the electric company.

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We still have quite a number of such 600 volt customers principally in the form of coal dock operators who originally bought 600 volt equipment to operate the motors on the cranes and hoists in the coal yard, because that was the best available type of current at the time.

(Discussion off the record.)

The Witness: A negative return is a return copper path for direct current which has gone out over a positive wire. An example might be this: You are all familiar with the type of street railway overhead that you find in most cities but which you don't find in Washington; up in the air is a trolley wire. That is the positive feeder. The current comes from the trolley wire down through the motors and goes ordinarily to the rails.

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Now, you may have fortifying the return path of the rails to the sub-station a negative feeder which performs practically the same purposes as the rail but is frequently used in connection with electrolysis

4762

Gould W. Van Derzee—By Respondents—Direct

mitigation by providing another path for the current than that provided by the rail.

In the case of trolley bus systems the negative return in the second wire which is up in the air alongside of the positive feeder. In that case the current

—2,095—

goes from the positive feeder down the trolley pole, through the motors, and instead of going to the track which trolley buses don't have, it comes back up to the second wire and thence back to the station.

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Q. Is there any joint use of sub-stations? A. Although sub-stations are not jointly used in the same manner as the equipment mentioned previously, that is poles and railway feeder, those sub-stations contain equipment used for the conversion of energy to the railway system. All sub-station equipment including conversion equipment used for supplying D. C. energy to the railway system of the Transport Company, are owned by the electric company.

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In all there are 32 such sub-stations used in part or in whole, having a very substantial installed capacity. Although the sub-stations are owned by the electric company, employees of the Transport Company perform certain services in the operation of the sub-stations. Some of these instances will now be given?

On the coal line which runs from Lakeside plant cars are operated over such coal lines by employees of the Transport Company. These employees start and stop the operation of the sub-station in relation to their hauling operations. At East Troy, although the operation of this sub-station is automatic, the employees of the Transport Company start

Gould W. Van Derzee—By Respondents—Direct

4765

and stop the operations of the sub-station by means of push-button control. The station is operated only when railway cars are being used.

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In order that there not be any confusion in view of the fact that the testimony may show that passenger service to East Troy was discontinued sometime ago, I would like the record to show that freight service was not discontinued between East Troy and Mukwonago. There was left a short section of rail line between East Troy and Mukwonago where the Sioux line railroad enters and freight is obtained from the outside world at East Troy via the Soo Line and this remaining short section of old Transport Company track. The car operators of the Transport Company operate the push-buttons.

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At Nemahbin, Oconomowoc, and Waukesha gravel pit we have sub-stations which are automatic. However, the operators of the interurban cars, employees of the Transport Company, assist in the operation of these stations by observing when they pass the station whether or not the signal light located on the outside of the sub-station is lighted. If the signal light is out this is an indication that the station is not operating and the interurban car operator reports this fact to the dispatcher.

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At the Oakland Avenue sub-station under certain operating conditions this station will lock out and must be started manually. The manual starting operation is performed by car house employees who are employees of the Transport Company, upon instructions from the electric company load dispatcher.

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Gould W. Van Derzee—By Respondents—Direct

Q. Is there common use of the Public Service building in Milwaukee? A. The electric company, as owner of the

—2,097—

Public Service building, rents space in the building to the Transport Company for such purposes as passenger waiting stations, car sheds, repair pits, and division office; due to the fact that the facilities mentioned above were contained in the Public Service building prior to the separation of the companies in October of 1938, it is advantageous that joint occupancy be continued.

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It would be extremely costly for the Transport Company to provide these facilities elsewhere and at the same time the electric company would suffer a loss of revenue and be in possession of additional building capacity now not needed at the present time.

One of the main reasons why the Transport Company can't move is that its tracks all converge to that point as a waiting station.

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Q. Is there a common use of any other buildings and property? A. Yes, in addition to the Public Service building there are other bulidings and property of lesser consequence which are used jointly by the companies. Several instances are Kinnickinnic car house and North Water Street yard.

A portion of the Kinnickinnic car house which is owned by the Transport Company is rented by the electric company. Certain garage and storage facilities of the North Water Street Yard which is owned by the electric company are rented to the Transport Company.

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Q. Is there any joint use of right-of-way? A. Yes. Since in certain instances the rail lines of the Transport Company and the transmission lines of the electric company go in the same direction and to the same points, it is highly advantageous for both companies that a single right-of-way be used jointly by both companies. Approximately the huge sum of \$3,600,000 is invested in the joint right-of-way used by the two companies.

I think we can say very forcibly that in the aggregate there are very large savings in these joint operations which give large economies to each of the three businesses which would be impossible except for the fact of common ownership.

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Mr. Browning: I think we have reached a convenient point.

The Examiner: All right, we will recess until tomorrow morning at ten o'clock.

(Whereupon, at 4:30 o'clock p. m. the hearing was adjourned to reconvene at 10:00 o'clock a. m., the following day.)

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